

ITALIAN COOPERATION FOR DEVELOPMENT



ANNUAL REPORT

1991

**TB Control Programme Among Afghan Refugees
N.W.F.P**

**ITALIAN COOPERATION for DEVELOPMENT
TB CONTROL PROGRAMME N.W.F.P.**

In the tables and graphics enclosed we point out some relevant records of the 1991 activities, concerning both the laboratories activities performed by all the labs included in the TBCP and the BHUs activities (case finding, treatment, follow up, registration of the patients, etc.)

The AFB + outcome was analyzed on the patients put under treatment during the year 1990.

Finally a study on the failure sputum positive patients treated with the retreatment regimen (introduced in the program since August 1990) and a study made by our Referral Laboratory on the Primary Resistance to the TB drugs follow.



LABORATORIES REPORT

The report of the laboratories activities in the province as a whole for the year 1991 shows some increase in the total number of slides performed (112900, with an average of 208 slides per month and per lab.) compared with the previous year (108775), although the slides and the patients found to be positive have a little decreased, accordingly with the lower expected incidence.

The ratio between the new positive patients and the total new patients examined was 4.73%.

The total number of patients found to be positive was 1726, while 1704 were registered in the BHUs in the same period (1669 as new patients and 35 as after being lost). 22 patients (=1,27%) were diagnosed and were not put under treatment, because they didn't return to the BHU after their sputum was collected.

The average slides per patient was 2.43, while the required number should be 3. This shows some improvement compared with the previous year (2.37).

Considering the BHUs activities we will see in details that there are wide discrepancies between the single districts and the single agencies. The workload was in general more in the central (and in Peshawar over all) than in the peripheral districts, and in the hospitals than in the laboratories located in the refugees camps.

Obviously in the districts where all the case finding activities were not satisfactory the lab. activities were not satisfactory either.

LHB	N.W.F.P	No REPORTS :	542
Period :	Jan-91	Dec-91	

Slides exam.	Tot.(+)slides	New Pat. exam.	New (+) Pat.	UT Pat exam.	UT (+) Pat.
112990	6016	36485	1726	9957	1069

Mean No. of slides per Patient **2.43**
 Ratio new (+) pat./ total new pat examined **4.73%**
 Ratio UT (+) pat./ total UT examined **10.74%**
 Average daily no. of slides in the period **8.69**
 Minimum monthly no. slides in the period **0**
 Maximum monthly no. slides in the period **4240**
 Average slides per month **208.47**

BHUs REPORT

As a result of our supervising policy (with particular attention to a better selection of sputum negative patients) and of our renewed guidelines on extrapulmonary TB (mainly concerning TB adenitis) wide differences in the total number of patients among sputum positive, sputum negative and extrapulmonary cases have not been reported. The respective figures were almost according to the expected epidemiological indices (sputum negative equal to sputum positive and extrapulmonary between 25% and 33% of the total cases).

In 1991 the new **sputum positive** cases were **1669**, the new **sputum negative** **1776** (2144 were registered, and then 368 were stopped because their X-Ray was not active TB suggestive) and the **extrapulmonary** **1767** (1812 registered and 45 stopped).

While the total sputum positive patients were quite constant from '85 to '91, the extrapulmonary and mainly the sputum negative cases dropped to more reliable figures.

The case finding activity on sputum positive patients was satisfactory in 1991, according to the Annual Risk of Infection assessed by previous tubercoline surveys ('85 and '89) and to the consequent Expected Incidence. While we consider as **minimum acceptable a case finding of 60%** of the expected incidence, **in the N.W.F.P. as a whole 95%** was reached. This percentage was determined after the patients who were not Afghan refugees or who were relapse and were not new cases were deducted from the total case finding (**corrected coverage**).

Such figure may look too optimistic, considering all problems related to a refugee population, but we have to consider some other points which can limit the above mentioned percentage:

- The figures concerning the refugee population are an estimation only, provided by UNHCR (which show very little decrease from the previous year).
- Some patients might not belong to the refugee population. They might come straight from Afghanistan for investigations and treatment, mostly to the main hospitals as Kacha Garf in Peshawar, and they might have been wrongly labelled as refugees. In Kacha Gari we estimated that an average between 5 and 10 % of the attendance could be due to patients coming from Afghanistan. This is probably the most important among the factors causing a too high figure in the case finding activity.
- Despite our efforts to find out and to avoid duplications of patients some duplication may still be present.

Despite all these limits the total case finding ratio is significantly higher than the 60% minimum acceptable and it is close to the 100% of the expected incidence.

However large discrepancies among single districts still need our attention (more than 200% in Peshawar district, less than 20% in some peripheral districts and tribal areas). Better facilities in the main towns are the obvious reason of such a disproportion, but other reasons have to be considered too.

Among those are the possible underestimation of the urban refugees population or their overestimation in the camps of some districts, the seasonal migrations as well as a poorer case finding activity in some areas due to different factors (logistical problems, technical assistance, i.g. concerning microscopes, drop of TB case finding during malaria break outs, etc).

We think that some points should be better analyzed:

- The trend to an increased confidence in the hospitals has been confirmed. Almost 50% of the total case finding was in Kacha Gari in Peshawar. South and North Waziristan (and partially Kurram) had a better case finding than other peripheral districts (i.g. D.K., Dir, Bajaur, Bannu), because of the presence of hospitals. Furthermore North Waziristan in 1990 had the lowest case finding activity and in 1991 it reached 60%. During the last year we agreed to include in the program the International Islamic Relief Organization, which is running a hospital in Miranshah, and therefore the TB cases of this hospital were registered with the result of a significant increase in the case finding.

- As more patients are diagnosed in hospitals, the number of patients transferred out to their respective camps for continuing the treatment increases, and the number of lost patients increases too. Therefore the increased number of hospitals on one hand improves the case finding but on the other hand weakens the success rate. In fact the highest averages of lost sputum positive patients were recorded in Peshawar, South Waziristan and Kurram districts.

- In most of the districts where the case finding was low the new sputum negative patients were more than twice the new sputum positive, while in most of the districts where the case finding was good the same figures matched the epidemiological indices (i.g. respectively Bajaur Dir Bannu and Peshawar S.Waziristan Manshera Haripur). This suggests that the reason of such a low case finding is the poor sputum examination, with a preference for a X-Ray diagnosis.

D.K. district, where both sputum positive and negative are low, is the only exception, probably because of lack of X-Ray facilities.

Furthermore in the districts with a poor case finding most of the patients were diagnosed in a limited number of BHUs, while in other BHUs the case finding was very low or not present at all (i.g. in Dir district most of

sputum positive patients were diagnosed in only one BHU, while none was found in two other BHUs both belonging to the largest refugee camp of the area, in Chitral the wide majority of the sputum positive belongs to only one BHU runned by ISRA).

This implies the responsibility of the Medical Officers and consequently the lack of trust in the BHU by the patients, or it could mean that in some BHUs the M.O.s were missing because of organizational problems (i.g. in Chitral)

Therefore there are still wide margins of improvement in all activities concerning the sputum positive case finding, which is and will remain our most important task.

REPORT

District/Agency: N.W.F.P.

BHU: All Bhu's	No of reports	2304
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

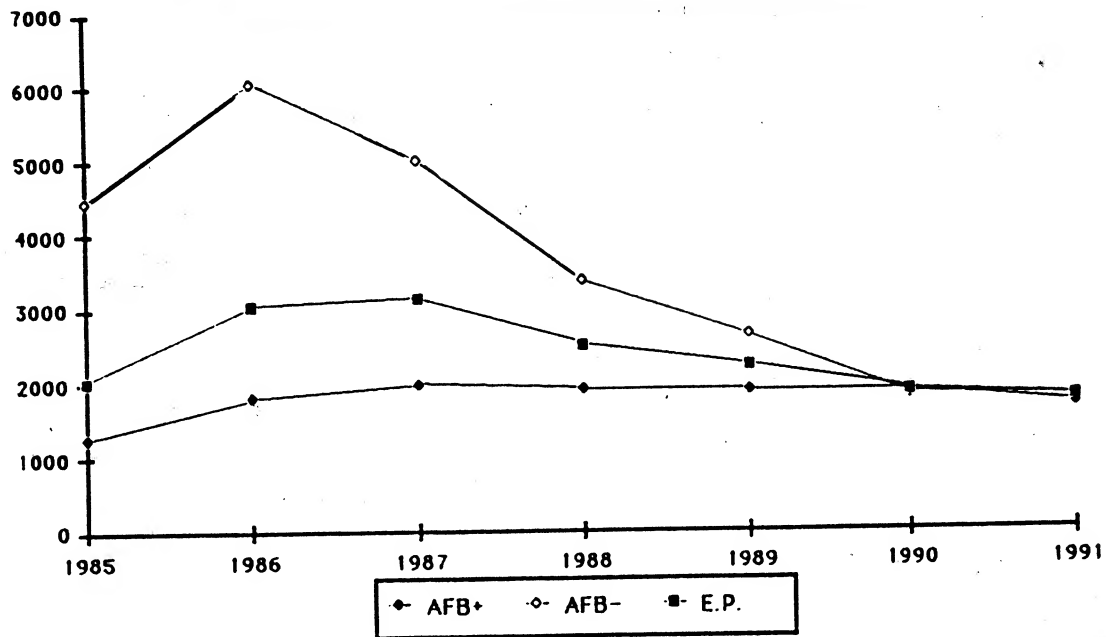
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	93102	3793	35430	1658
Under Treatment (old patients)	18572	2068	9582	1051
TOTAL	111674	5861	45012	2709

B. TREATMENT ACTIVITIES

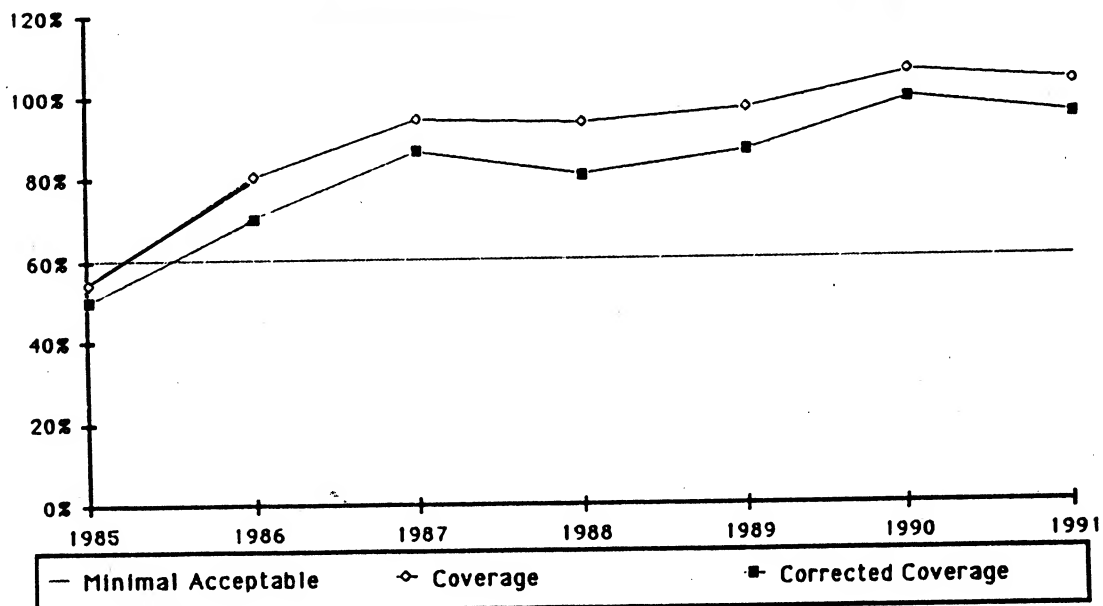
*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	T o t a l	
a	On treat. end previous per.	1165	1215	2380	1338
b	new cases reg. this period	1669	2144	3813	1812
In put	start. again after being lost	35	12	47	17
	transferred in this period	90	206	296	152
c	Total= (a)+(b)	2959	3577	6536	3319
out put	completing treat. this period	1227	1077	2304	1175
	died during this period	43	59	102	21
	transferred out this period	261	283	544	364
	lost during this period	361	373	734	363
N° of cases stopped this per.		*****	368	*****	45
d	T O T A L	1892	2160	4052	1968
e	Under treatment at the end of the period: (c)-(d)	1067	1417	2484	1351
N° of months defaulted this per		N A	N A	N A	N A
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				3835	

	1991	1990
N° of sputa examined / patient:	2.48	
ratio new AFB(+) reg./new pulm.pat:	43.77%	
AFB(+) lost/(output - transf. out):	22.13%	
AFB(-) lost/(output - transf. out):	24.72%	

N.W.F.P. Case Finding Activities for Categories of T.B. Patients



N.W.F.P. Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: All/UMHCR

BHU: All	No of reports	1295
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patient examined	N° of patient found (+) ve
New attendants of the clinic	18827	688	6928	238
Under Treatment (old patients)	3523	264	1260	85
TOTAL	22350	952	8188	323

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE		N° of PULMONARY CASES			N° Extra-P. cases
CASES/ *****		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	231	338	569	229
b	new cases reg. this period	264	614	878	360
In	start. again after being lost	1	1	2	2
put	transferred in this period	30	56	86	19
c	Total= (a)+(b)	526	1009	1535	610
	completing treat. this period	221	204	425	165
out	died during this period	16	27	43	10
put	transferred out this period	62	119	181	52
	lost during this period	60	134	194	92
	N° of cases stopped this per.	*****	183	*****	23
d	TOTAL	359	667	1026	342
e	Under treatment at the end of the period: (c)-(d)	167	342	509	268
	N° of months defaulted this per	NA	NA	NA	NA
	N° of sputum (-)ve becoming (+)ve this per.		0	*****	*****
Total n° of TB patients on treatment at the end of per. :					777

	1991	1990
N° of sputa examined / patient:	2.73	
ratio new AFB(+) reg./new pulm.pat:	30.07%	
AFB(+) lost/(output - transf. out):	20.20%	
AFB(-) lost/(output - transf. out):	36.71%	

REPORT

District/Agency: **ALL VOLAGS**

BHU: **ALL BHUs**

No of reports: **1009**

PERIOD: from **Jan-91** to: **Dec-91**

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

Type of patients/ *****	Nº of slides examined	Nº of slides found (+) ve	Nº of patien. examined	Nº of patien. found (+) ve
New attendants of the clinic	74275	3105	28502	1420
Under Treatment (old patients)	15049	1804	8322	966
TOTAL	89324	4909	36824	2386

B. TREATMENT ACTIVITIES

TYPE OF DISEASE *****		Nº of PULMONARY CASES			Nº Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	934	877	1811	1109
b	new cases reg. this period	1405	1530	2935	1452
In put	start. again after being lost	34	11	45	15
	transferred in this period	60	150	210	133
c	Total= (a)+(b)	2433	2568	5001	2709
out put	completing treat. this period	1006	873	1879	1010
	died during this period	27	32	59	11
	transferred out this period	199	164	363	312
	lost during this period	301	239	540	271
stopped this per.		*****	185	*****	22
d	TOTAL	1533	1493	3026	1626
e	Under treatment at the end of the period: (c)-(d)	900	1075	1975	1083
Nº of months defaulted this per...		***	***	***	***
Nº of sputum (-)ve becoming (+)ve this per.		***	***	*****	*****
Total nº of TB patients on treatment at the end of per. =				3058	

1991

Nº of sputa examined / patient: 2.43

ratio new AFB(+) reg./new pulm pat: 47.87%

AFB(+) lost/(output - transf. out): 22.56%

AFB(-) lost/(output - transf. out): 20.89%

REPORT

District/Agency: Peshawar

BHU: ICD	No of reports	547
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

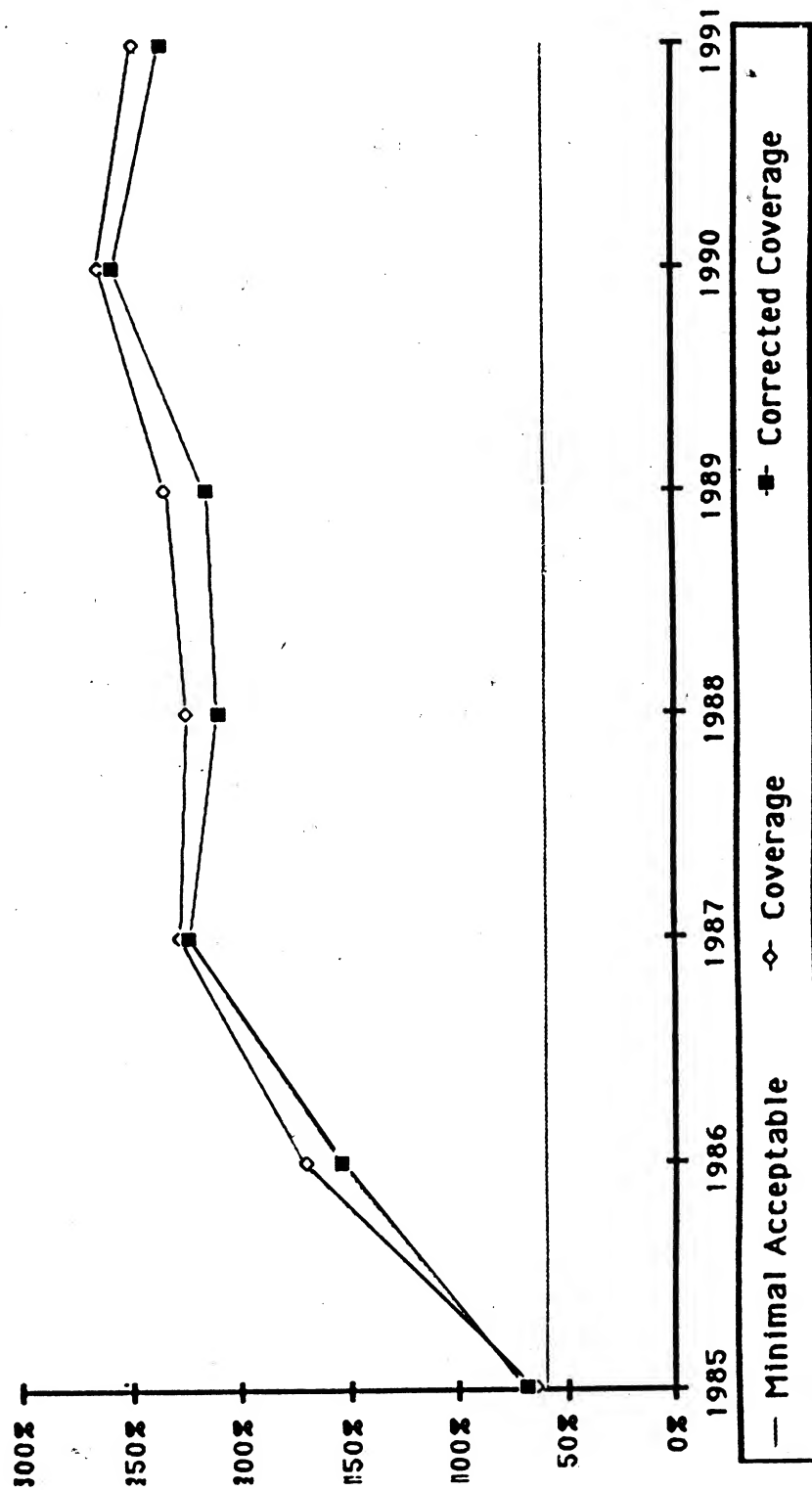
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patient. examined	N° of patient. found (+) ve
New attendants of the clinic	55174	2276	20848	1024
Under Treatment (old patients)	11593	1447	6869	791
TOTAL	66767	3723	27717	1815

B. TREATMENT ACTIVITIES

***** / TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	709	621	1330	859
b	new cases reg. this period	1011	825	1836	1104
In put	start. again after being lost	32	10	42	14
	transferred in this period	39	113	152	106
c	Total- (a)+(b)	1791	1569	3360	2083
out put	completing treat. this period	801	671	1472	812
	died during this period	9	7	16	3
	transferred out this period	164	143	307	288
	lost during this period	218	131	349	192
N° of cases stopped this per.		*****	18	*****	3
d	TOTAL	1192	970	2162	1298
e	Under treatment at the end of the period: (c)-(d)	599	599	1198	785
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.					1983

	1991	1990
N° of sputa examined / patient:	2.41	
ratio new AFB(+) reg./new pulm.pat:	55.07%	
AFB(+) lost/(output - transf. out):	21.21%	
AFB(-) lost/(output - transf. out):	16.19%	

PESHAWAR DISTRICT
Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: **Mardan**

BHU: All Bhu's	No of reports 192
PERIOD: from 01-91	to : 12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

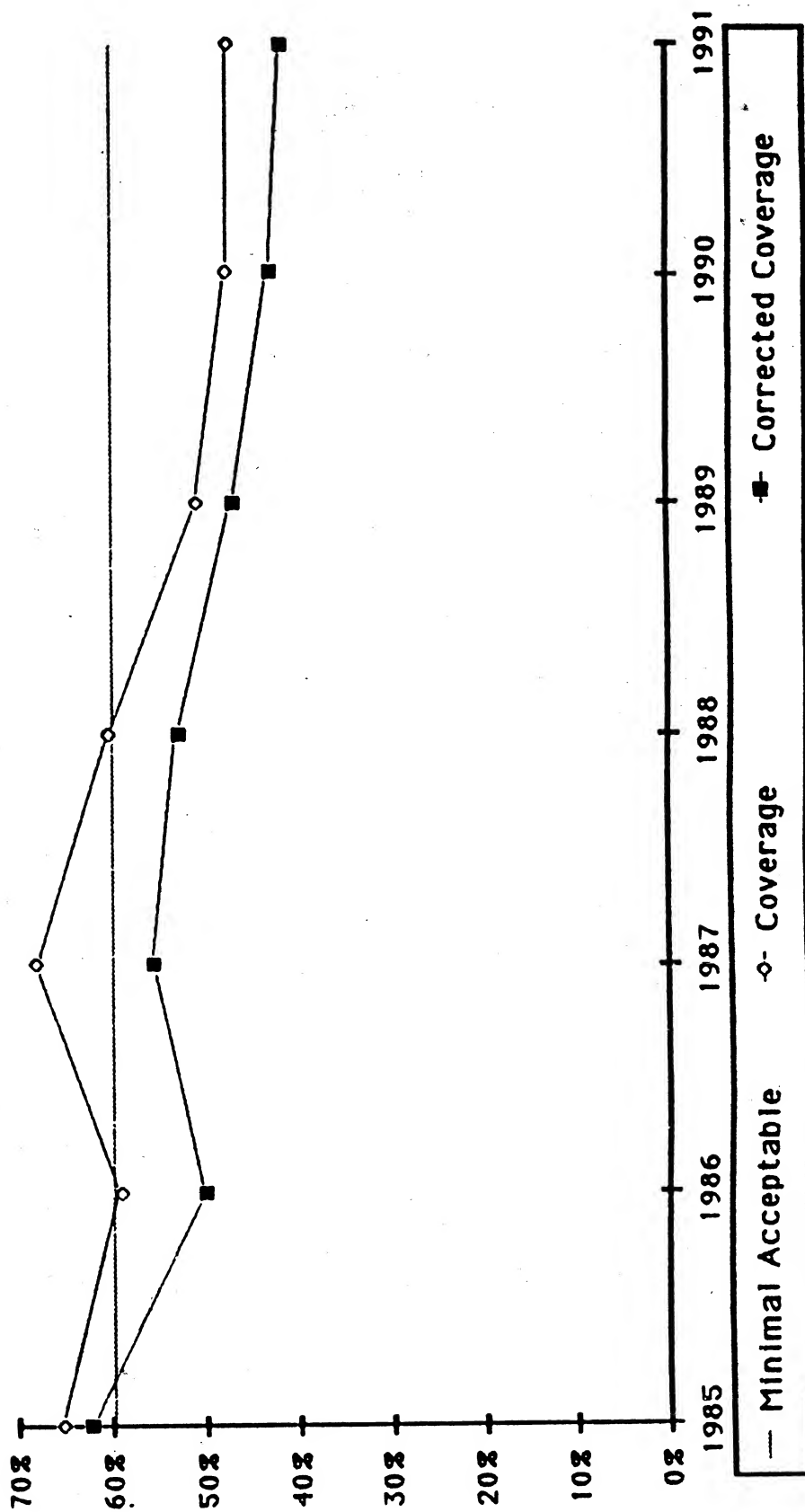
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	6029	187	2033	81
Under Treatment (old patients)	520	68	174	25
TOTAL	6549	255	2207	106

B. TREATMENT ACTIVITIES

***** / TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	33	31	64	52
b	new cases reg. this period	57	59	116	59
In put	start. again after being lost	0	0	0	0
	transferred in this period	1	4	5	3
c	Total= (a)+(b)	91	94	185	114
out put	completing treat. this period	38	25	63	49
	died during this period	6	6	12	1
	transferred out this period	13	11	24	11
	lost during this period	4	7	11	11
N° of cases stopped this per.		*****	9	*****	3
d	TOTAL	61	58	119	75
e	Under treatment at the end of the period: (c)-(d)	30	36	66	39
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per. :				105	

	1991	1990
N° of sputa examined / patient:	2.97	
ratio new AFB(+) reg./new pulm.pat:	49.14%	
AFB(+) lost/(output - transf. out):	8.33%	
AFB(-) lost/(output - transf. out):	18.42%	

MARDAN DISTRICT
Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: **Kohat**

BHU:	Kohat	No of reports	228
PERIOD: from	01-91	to :	12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	6694	322	2439	138
Under Treatment (old patients)	1797	136	650	53
TOTAL	8491	458	3089	191

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	95	118	213	90
b	new cases reg. this period	127	267	394	154
In put	start. again after being lost	0	0	0	0
	transferred in this period	7	7	14	10
c	Total= (a)+(b)	229	392	621	254
out put	completing treat. this period	99	89	188	72
	died during this period	8	14	22	5
	transferred out this period	9	4	13	1
	lost during this period	21	40	61	27
N° of cases stopped this per.		*****	23	*****	4
d	TOTAL	137	170	307	109
e	Under treatment at the end of the period: (c)-(d)	92	222	314	145
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				459	

1991

1990

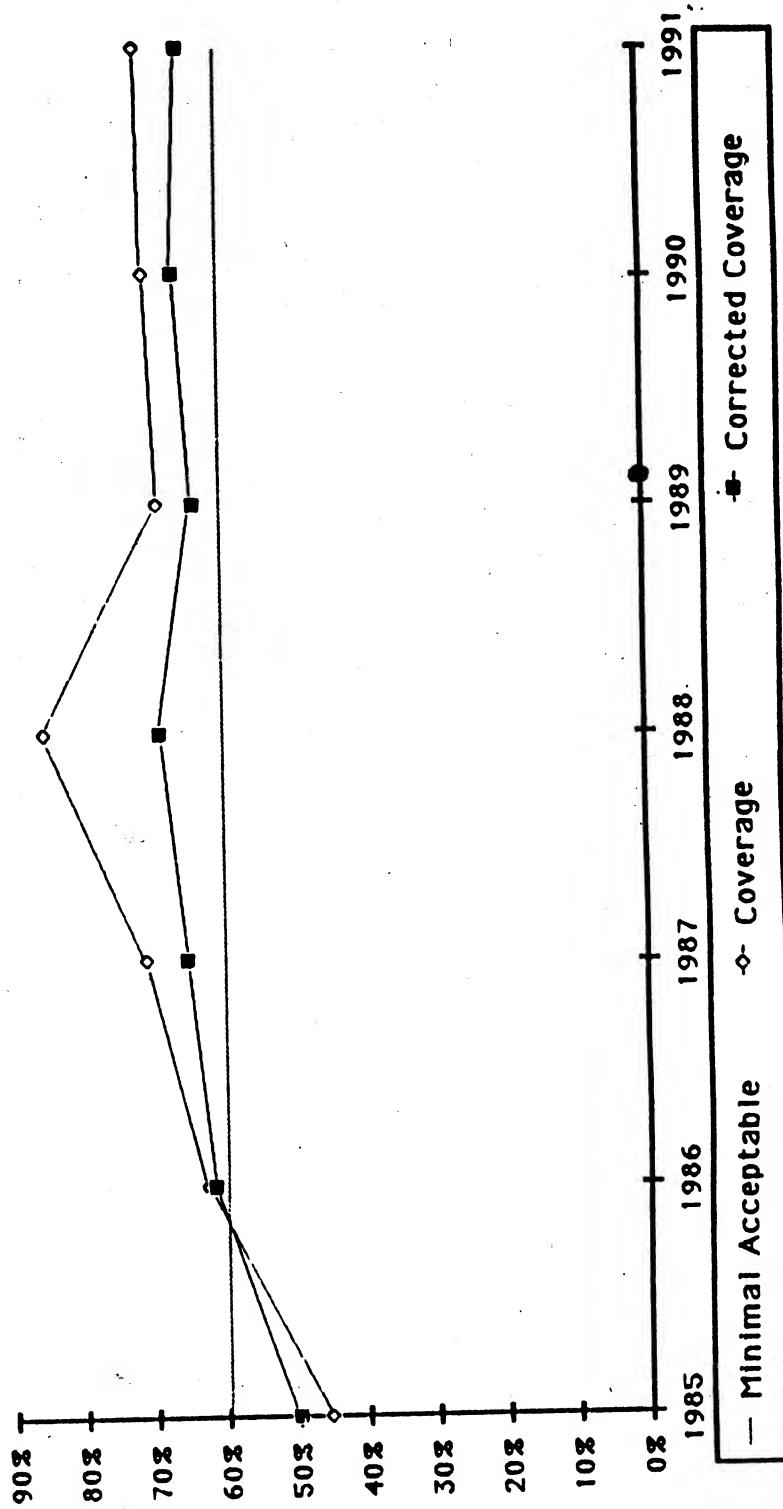
N° of sputa examined / patient:	2.75	
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ratio new AFB(+) reg./new pulm.pat:	32.23%	
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AFB(+) lost/(output - transf. out):	16.41%	
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AFB(-) lost/(output - transf. out):	27.97%	
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KOHAT DISTRICT
Case Finding Coverage % of Expected Coverage



REPORT

District/Agency: Haripur

BHU: Haripur	No of reports	108
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	5040	145	1942	63
Under Treatment (old patients)	688	59	251	24
TOTAL	5728	204	2193	87

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	45	21	66	57
b	new cases reg. this period	60	84	144	53
in put	start. again after being lost	0	0	0	0
	transferred in this period	6	3	9	4
c	Total- (a)+(b)	111	108	219	114
out put	completing treat. this period	62	19	81	49
	died during this period	3	4	7	1
	transferred out this period	10	9	19	9
	lost during this period	3	1	4	4
N° of cases stopped this per.		*****	10	*****	0
d	TOTAL	78	43	121	63
e	Under treatment at the end of the period: (c)-(d)	33	65	98	51
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				149	

	1991	1990
N° of sputa examined / patient:	2.61	
ratio new AFB(+) reg./new pulm.pat:	41.67%	
AFB(+) lost/(output - transf. out):	4.41%	
AFB(-) lost/(output - transf. out):	4.17%	

REPORT

District/Agency: Ghazi

BHU: All Bhu's	No of reports	27
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

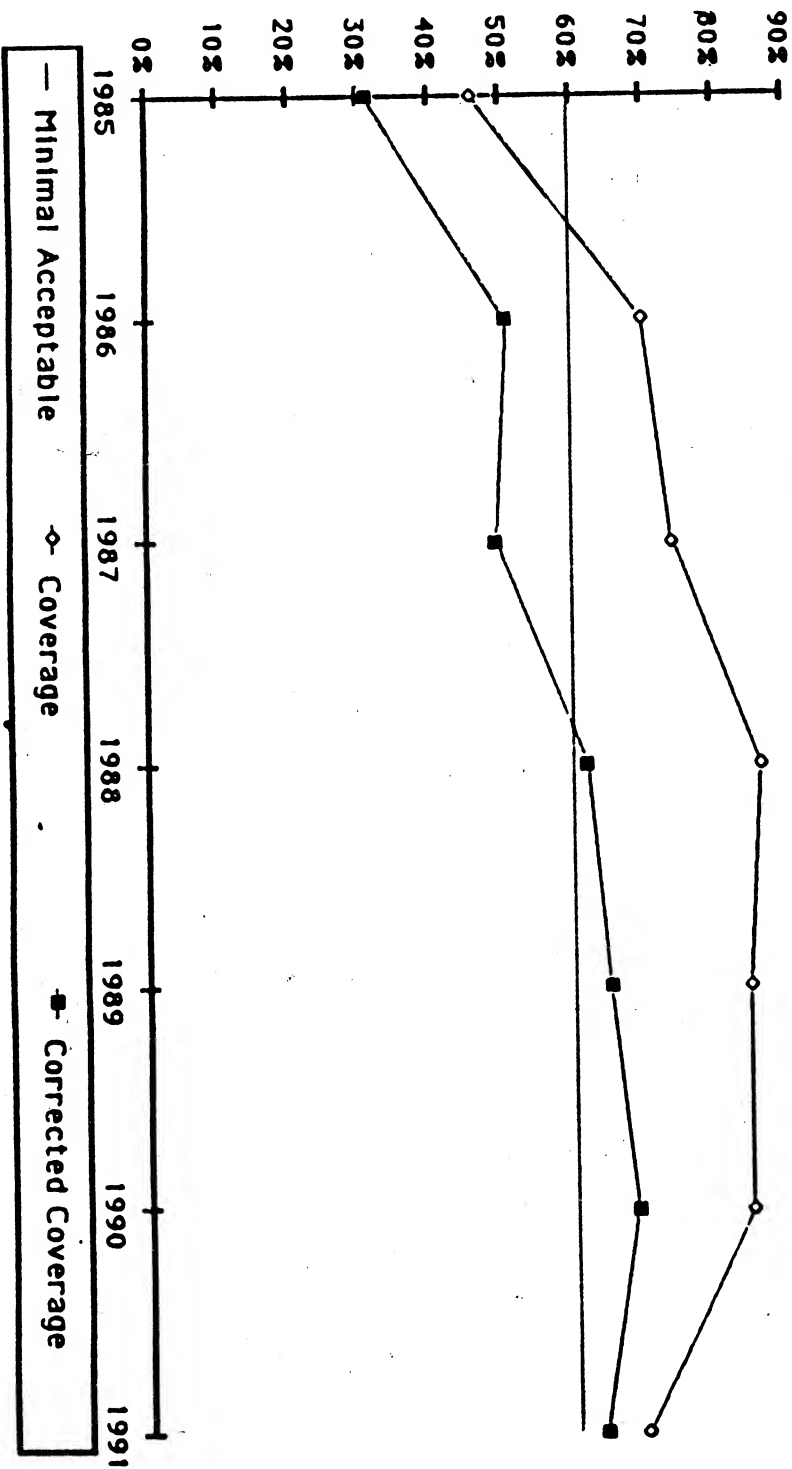
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	1530	27	510	9
Under Treatment (old patients)	199	25	63	9
TOTAL	1729	52	573	18

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	9	4	13	6
b	new cases reg. this period	10	13	23	2
In pul	start. again after being lost	0	0	0	0
	transferred in this period	1	0	1	1
c	Total= (a)+(b)	20	17	37	9
out pul	completing treat. this period	9	1	10	4
	died during this period	1	1	2	0
	transferred out this period	1	3	4	1
	lost during this period	2	0	2	1
N° of cases stopped this per.		*****	0	*****	0
d	TOTAL	13	5	18	6
e	Under treatment at the end of the period: (c)-(d)	7	12	19	3
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				22	

	1991	1990
N° of sputa examined / patient:	3.02	
ratio new AFB(+) reg./new pulm.pat:	43.48%	
AFB(+) lost/(output - transf. out):	16.67%	
AFB(-) lost/(output - transf. out):	0.00%	

HARIPUR DISTRICT **Case Finding Coverage % of Expected Incidence**



REPORT

District/Agency: Manshera

BHU: All Bh's	No of reports	84
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

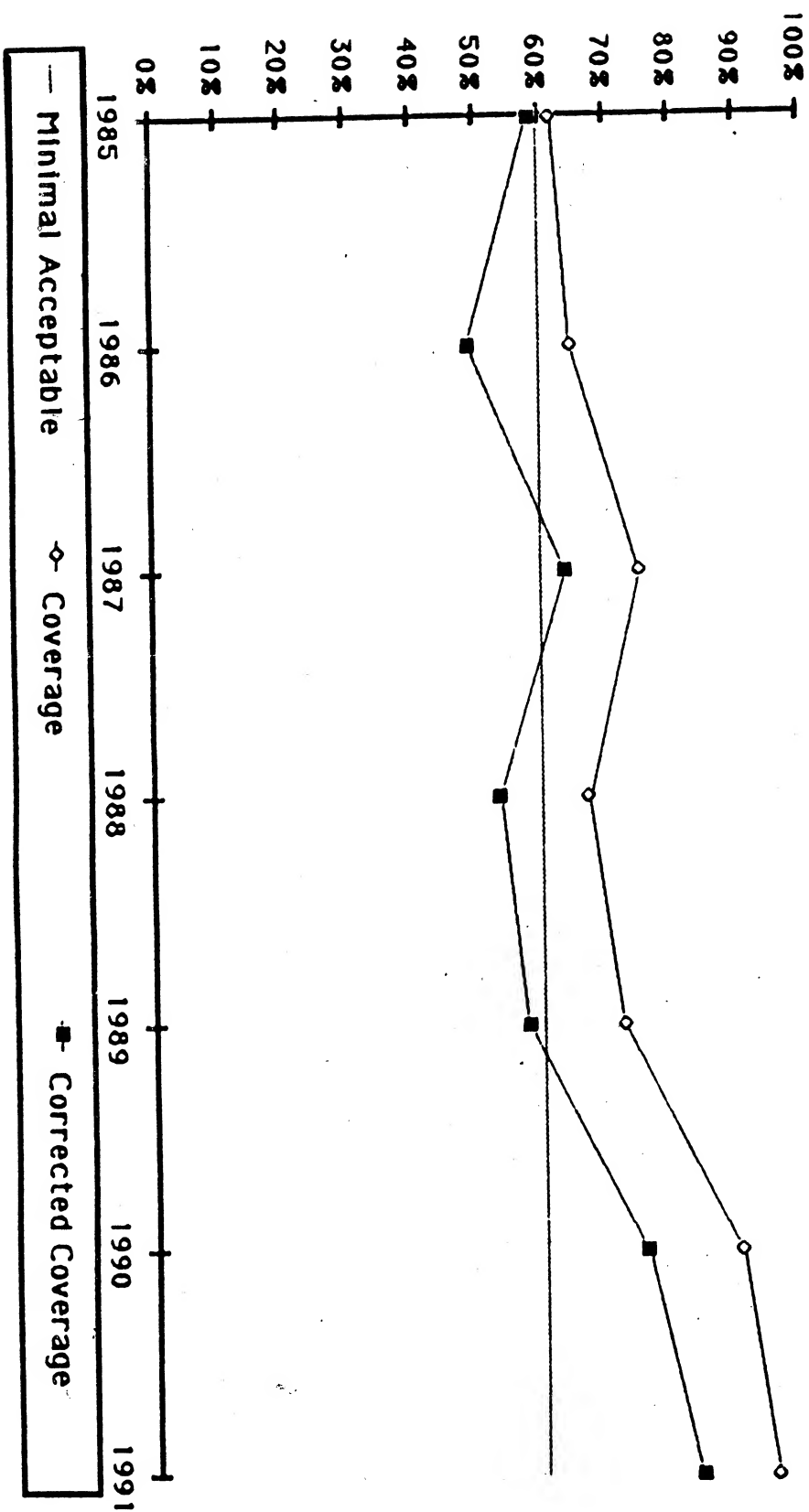
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	1708	159	579	53
Under Treatment (old patients)	611	92	205	29
TOTAL	2319	251	784	82

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	32	49	81	48
b	new cases reg. this period	49	67	116	49
In put	start. again after being lost	0	1	1	0
	transferred in this period	3	12	15	3
c	Total- (a)+(b)	84	129	213	100
out put	completing treat. this period	35	45	80	39
	died during this period	2	8	10	3
	transferred out this period	4	9	13	9
	lost during this period	2	4	6	3
N° of cases stopped this per.		*****	9	*****	1
d	TOTAL	43	75	118	55
e	Under treatment at the end of the period: (c)-(d)	41	54	95	45
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				140	

	1991	1990
N° of sputa examined / patient:	2.96	
ratio new AFB(+) reg./new pulm.pat:	42.24%	
AFB(+) lost/(output - transf. out):	5.13%	
AFB(-) lost/(output - transf. out):	7.02%	

MANSHERA DISTRICT **Case Finding Coverage % of Expected Incidence**



REPORT

District/Agency: Dir

BIU: Dir	No of reports 96
PERIOD: from 01-91	to : 12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

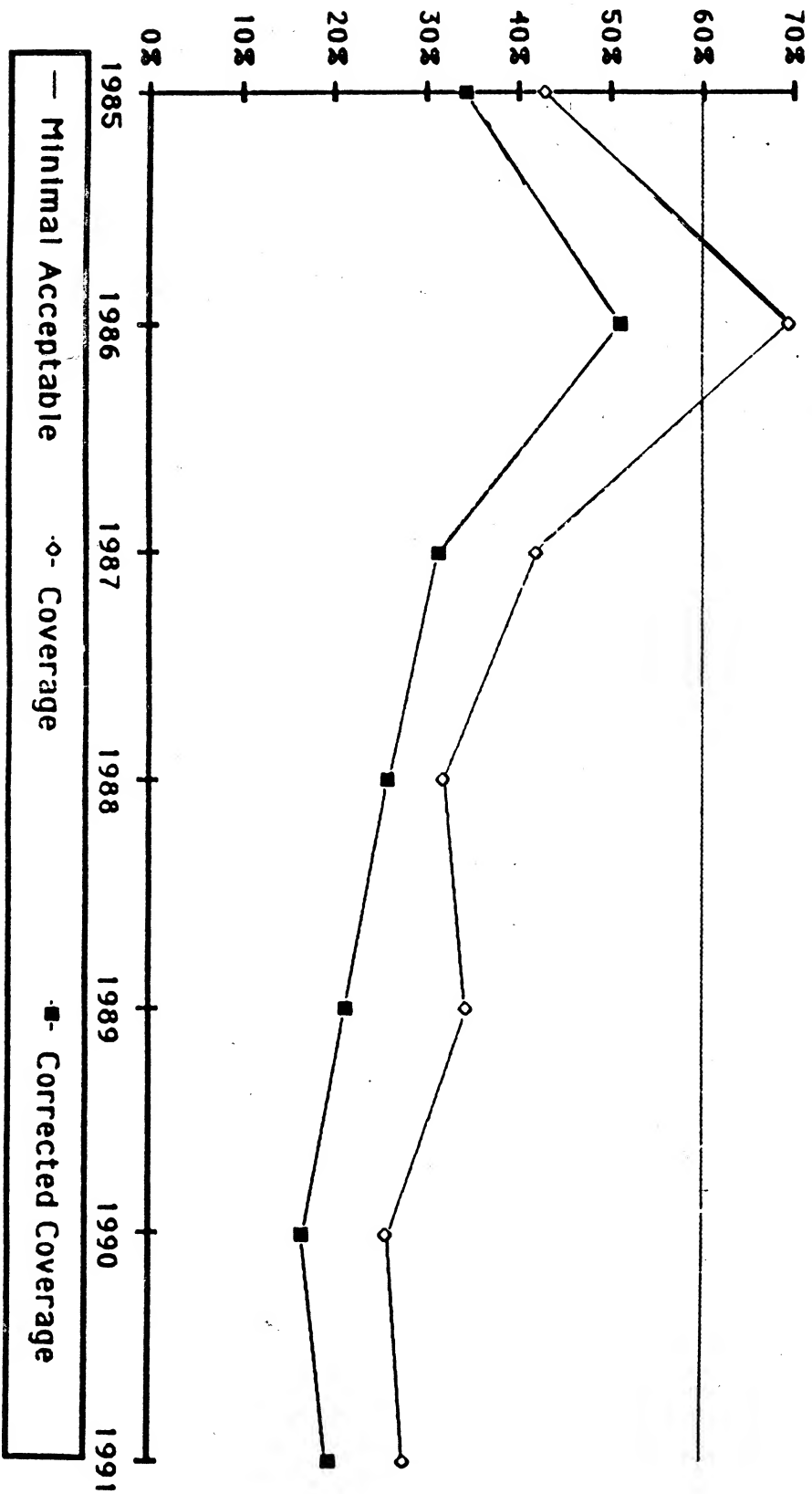
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	501	52	179	18
Under Treatment (old patients)	174	6	66	2
TOTAL	675	58	245	20

B. TREATMENT ACTIVITIES

***** / TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. and previous per.	9	20	29	31
b	new cases reg. this period	17	45	62	32
In	start. again after being lost	0	0	0	0
put	transferred in this period	1	3	4	0
c	Total- (a)+(b)	27	68	95	63
out	completing treat. this period	11	17	28	28
put	died during this period	1	0	1	1
	transferred out this period	0	2	2	0
	lost during this period	0	8	8	8
	N° of cases stopped this per.	*****	10	*****	2
d	TOTAL	12	37	49	39
e	Under treatment at the end of the period: (c)-(d)	15	31	46	24
	N° of months defaulted this per	NA	NA	NA	NA
	N° of sputum (-)ve becoming (+)ve this per.		0	*****	*****
Total n° of TB patients on treatment at the end of per.				70	

	1991	1990
N° of sputa examined / patient:	2.76	
ratio new AFB(+) reg./new pulm.pat:	27.42%	
AFB(+) lost/(output - transf. out):	0.00%	
AFB(-) lost/(output - transf. out):	32.00%	

DIR DISTRICT
Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: Chitral

BIU:

Dir/Chitral

No of reports

79

PERIOD: from 01-91

to : 12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

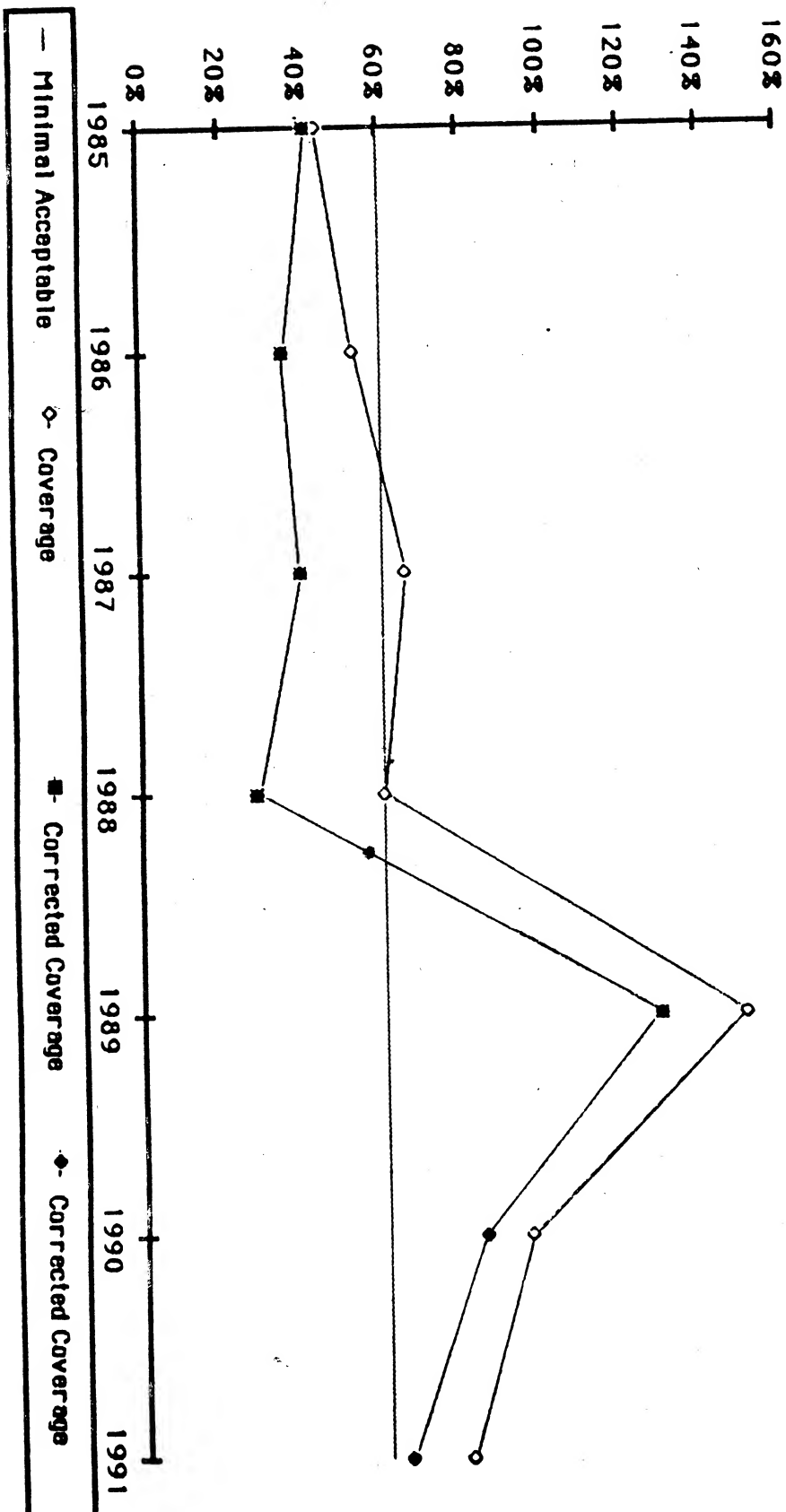
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	639	42	250	17
Under Treatment (old patients)	116	6	60	4
TOTAL	755	48	310	21

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	11	2	13	22
b	new cases reg. this period	21	33	54	40
In put	start. again after being lost	0	0	0	0
	transferred in this period	2	7	9	4
c	Total- (a)+(b)	34	42	76	66
out put	completing treat. this period	15	6	21	18
	died during this period	0	1	1	0
	transferred out this period	0	3	3	7
	lost during this period	3	5	8	13
N° of cases stopped this per.		*****	0	*****	1
d	TOTAL	18	15	33	39
e	Under treatment at the end of the period: (c)-(d)	16	27	43	27
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				70	

	1991	1990
N° of sputa examined / patient:	2.44	
ratio new AFB(+) reg./new pulm.pat:	38.89%	
AFB(+) lost/(output - transf. out):	16.67%	
AFB(-) lost/(output - transf. out):	41.67%	

CHITRAL DISTRICT Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: Kurram

BHU: Kurram	No of reports	355 ^a
PERIOD: from 01-91	to: 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

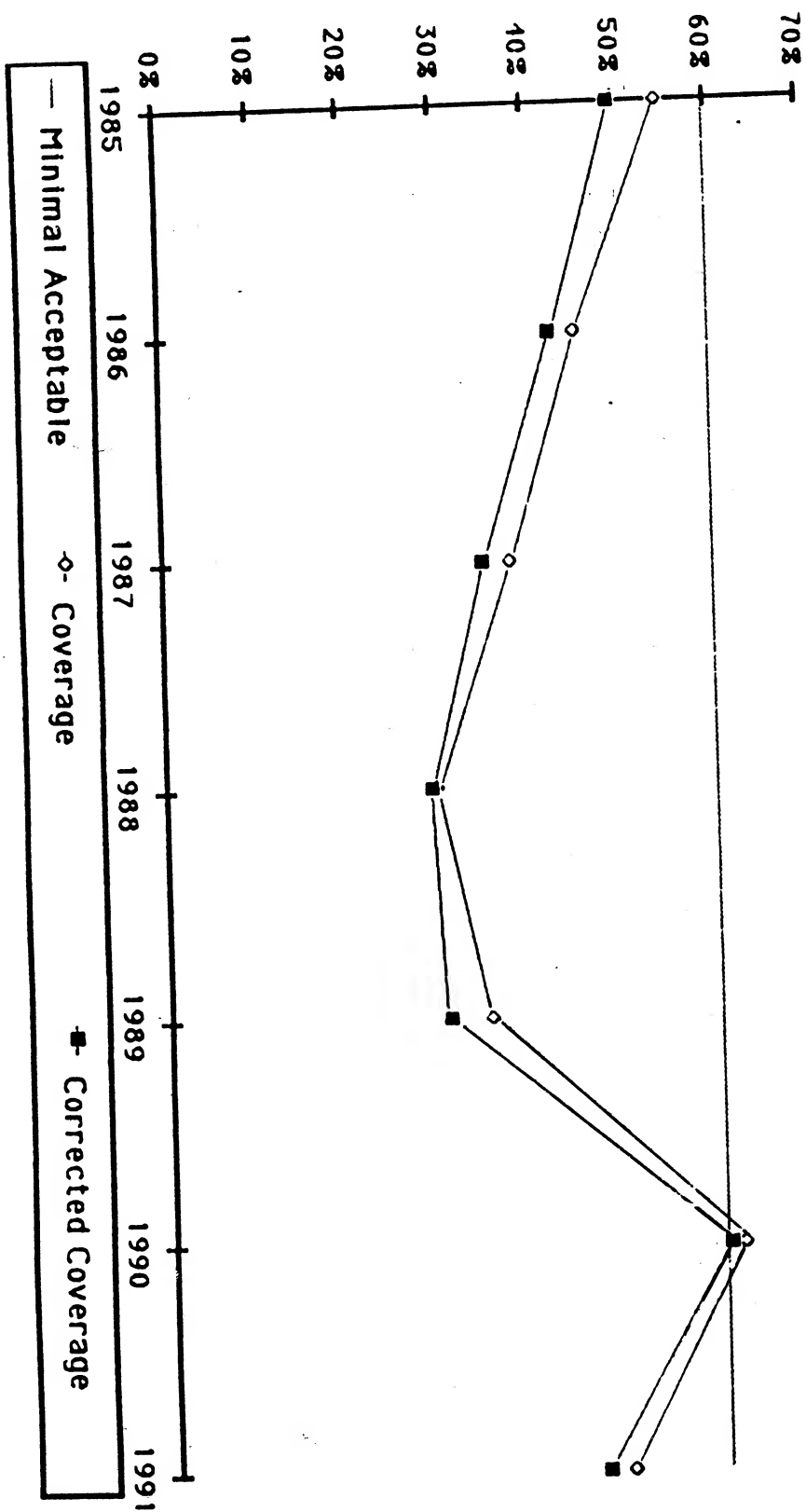
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	5346	243	2562	135
Under Treatment (old patients)	1514	122	703	79
TOTAL	6860	365	3265	214

B. TREATMENT ACTIVITIES

***** / TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	106	143	249	83
b	new cases reg. this period	125	235	360	142
In put	start. again after being lost	2	1	3	2
	transferred in this period	7	15	22	6
c	Total- (a)+(b)	240	394	634	233
out put	completing treat. this period	85	77	162	53
	died during this period	8	8	16	5
	transferred out this period	13	11	24	7
	lost during this period	45	69	114	55
N° of cases stopped this per.		*****	84	*****	23
d	TOTAL	151	249	400	143
e	Under treatment at the end of the period: (c)-(d)	89	145	234	90
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				324	

	1991	1990
N° of sputa examined / patient:	2.10	
ratio new AFB(+) reg./new pulm.pat:	34.72%	
AFB(+) lost/(output - transf. out):	32.61%	
AFB(-) lost/(output - transf. out):	44.81%	

KURRAM DISTRICT **Case Finding Coverage % of Expected Incidence**



REPORT

District/Agency: Bajaur

BHU: Bajaur	No of reports	204
PERIOD: from 01-91	to : 12-91	

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

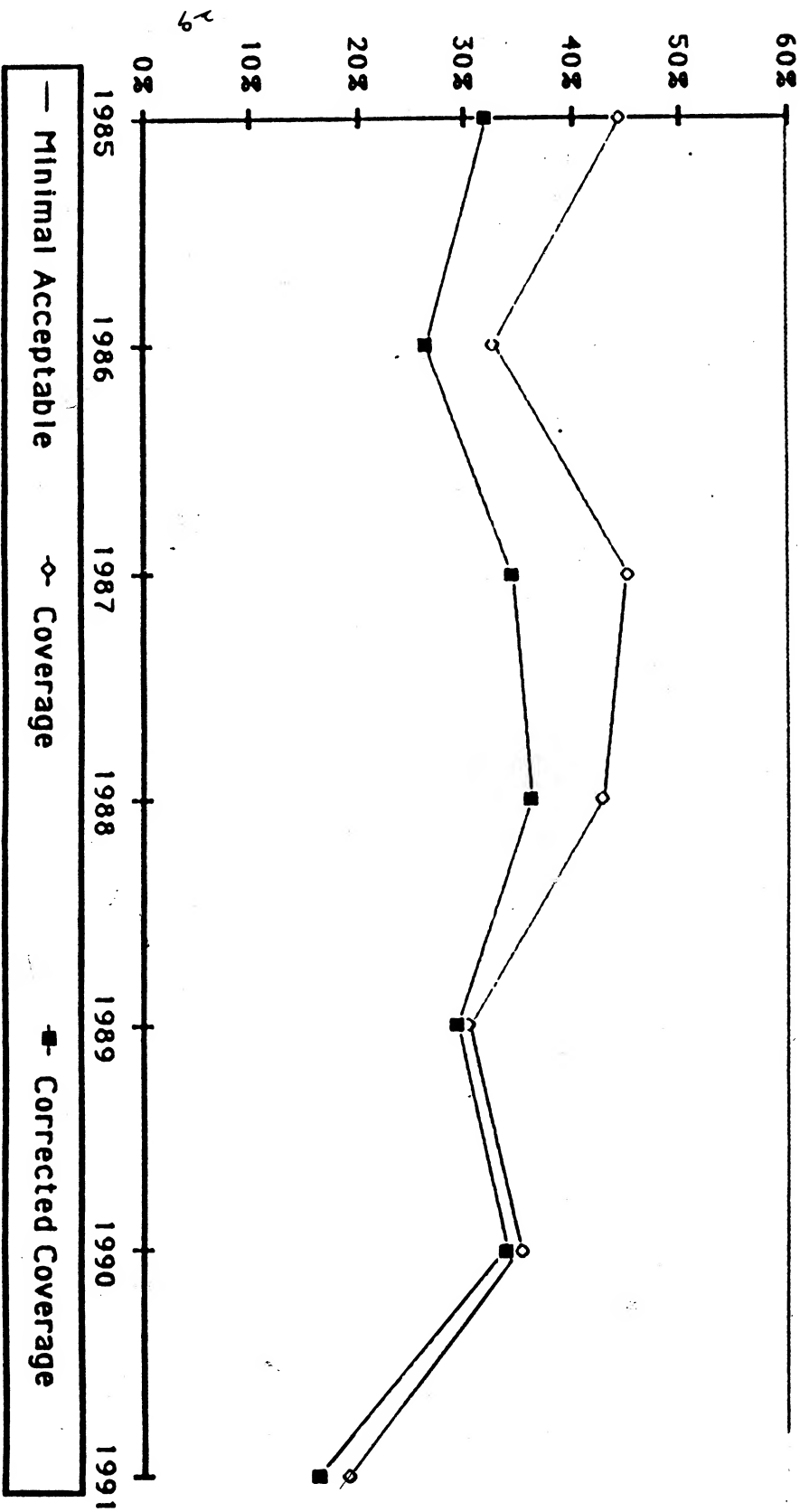
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	2914	93	974	32
Under Treatment (old patients)	525	12	175	4
TOTAL	3439	105	1149	36

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	27	60	87	43
b	new cases reg. this period	27	87	114	79
In put	start. again after being lost	0	0	0	1
	transferred in this period	3	2	5	1
c	Total= (a)+(b)	57	149	206	124
out put	completing treat. this period	29	42	71	34
	died during this period	2	9	11	1
	transferred out this period	3	4	7	7
	lost during this period	5	14	19	11
	N° of cases stopped this per.	*****	23	*****	5
d	TOTAL	39	92	131	58
e	Under treatment at the end of the period: (c)-(d)	18	57	75	66
	N° of months defaulted this per	NA	NA	NA	NA
	N° of sputum (-)ve becoming (+)ve this per.		0	*****	*****
Total n° of TB patients on treatment at the end of per.				141	

	1991	1990
N° of sputa examined / patient:	2.99	
ratio new AFB(+) reg./new pulm.pat:	23.68%	
AFB(+) lost/(output - transf. out):	13.89%	
AFB(-) lost/(output - transf. out):	21.54%	

BAJOUR DISTRICT
Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: Bannu

BHU:	Bannu	No of reports	51
PERIOD: from	01-91	to :	12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

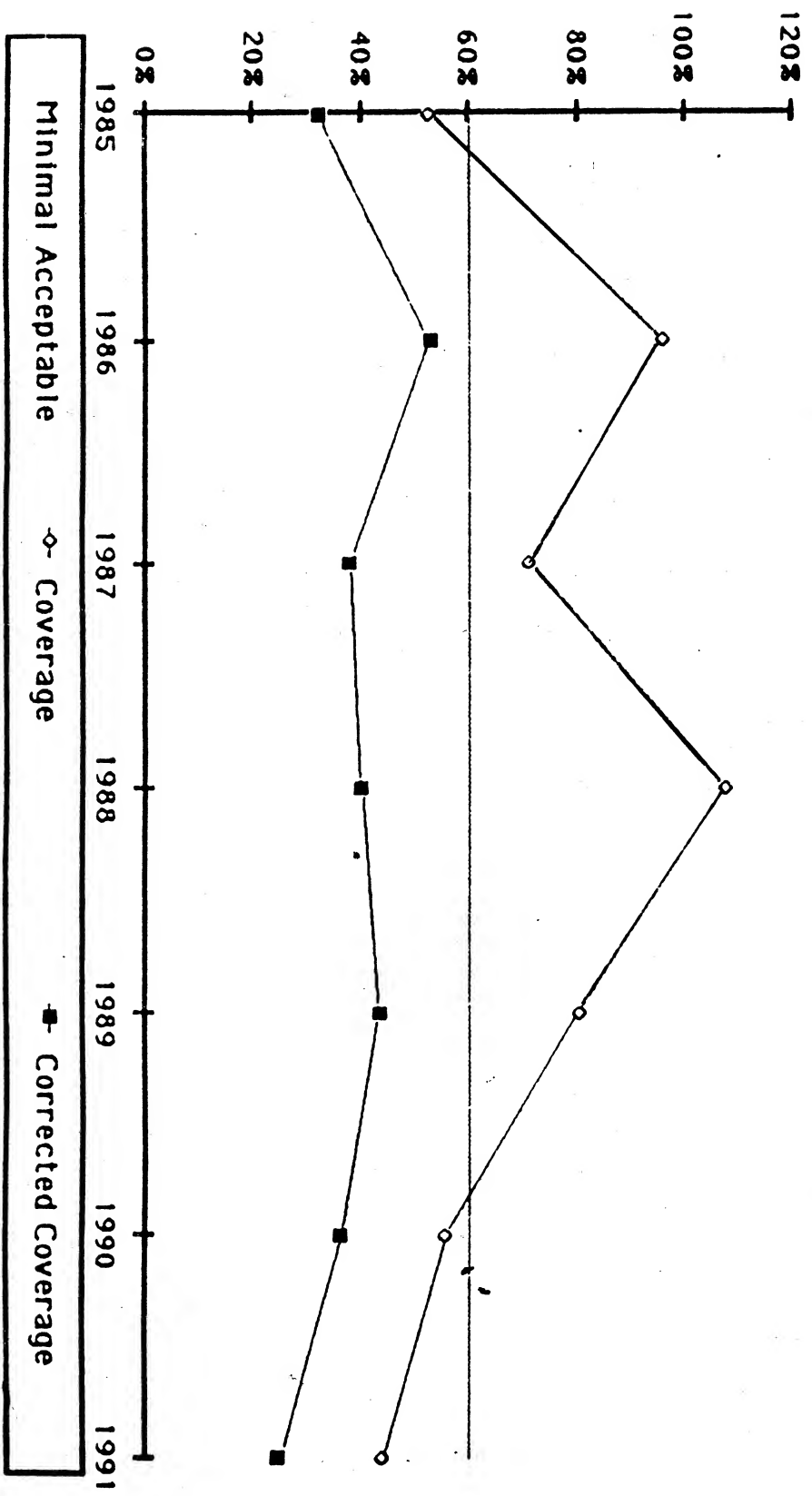
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	482	38	181	15
Under Treatment (old patients)	219	62	79	8
TOTAL	701	100	260	23

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	17	19	36	4
b	new cases reg. this period	23	61	84	16
In put	start. again after being lost	1	0	1	0
	transferred in this period	7	12	19	2
c	Total- (a)+(b)	48	92	140	22
out put	completing treat. this period	7	7	14	0
	died during this period	1	0	1	1
	transferred out this period	22	43	65	8
	lost during this period	5	8	13	3
N° of cases stopped this per.		*****	12	*****	0
d	TOTAL	35	70	105	12
e	Under treatment at the end of the period: (c)-(d)	13	22	35	10
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				45	

	1991	1990
N° of sputa examined / patient:	2.70	
ratio new AFB(+) reg./new pulm.pat:	27.38%	
AFB(+) lost/(output - transf. out):	38.46%	
AFB(-) lost/(output - transf. out):	53.33%	

BANNU DISTRICT **Case Finding Coverage % of Expected Incidence**



REPORT

District/Agency: North Waziristan

BHU: Miranshah

No of reports 169

PERIOD: from 01-91 to : 12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	5602	115	2215	22
Under Treatment (old patients)	466	5	178	2
TOTAL	6068	120	2393	24

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. and previous per.	20	71	91	17
b	new cases reg. this period	78	297	375	59
In put	start. again after being lost	0	0	0	0
	transferred in this period	3	6	9	1
c	Total- (a)+(b)	101	374	475	77
out put	completing treat. this period	15	56	71	7
	died during this period	2	1	3	0
	transferred out this period	5	9	14	4
	lost during this period	13	54	67	14
N° of cases stopped this per.		*****	140	*****	0
d	TOTAL	35	260	295	25
e	Under treatment at the end of the period: (c)-(d)	66	114	180	52
N° of months defaulted this per		NA	NA	NA	NA
N° of sputum (-)ve becoming (+)ve this per.			0	*****	*****
Total n° of TB patients on treatment at the end of per.				232	

1991

1990

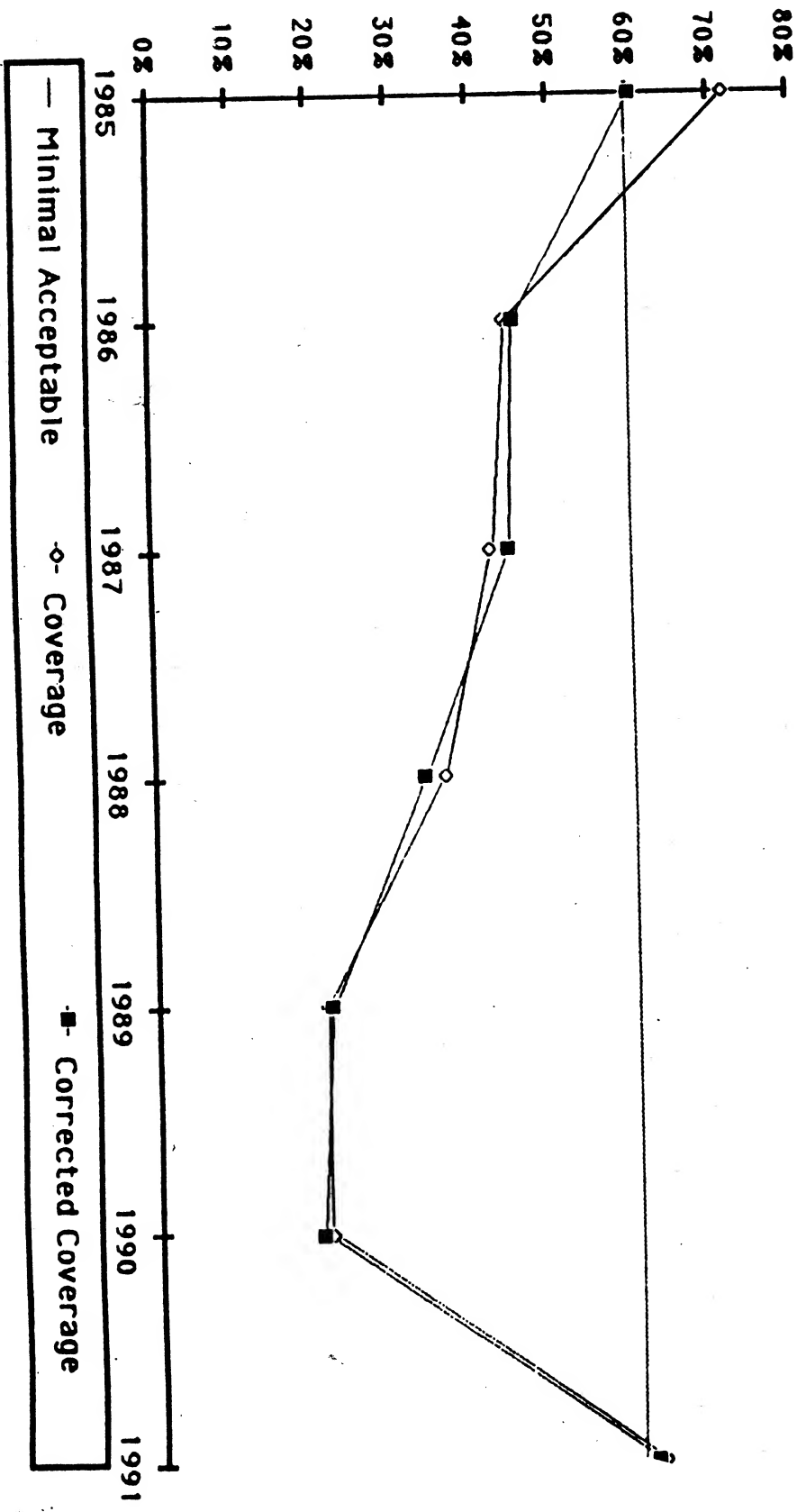
N° of sputa examined / patient: 2.54

ratio new AFB(+) reg./new pulm.pat: 20.80%

AFB(+) lost/(output - transf. out): 43.33%

AFB(-) lost/(output - transf. out): 48.65%

NORTH WASIRISTAN
Case Finding Coverage % of Expected Incidence



REPORT

District/Agency: D.I. Khan

BHU:	DIK	No of reports	96
PERIOD: from	01-91	to :	12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

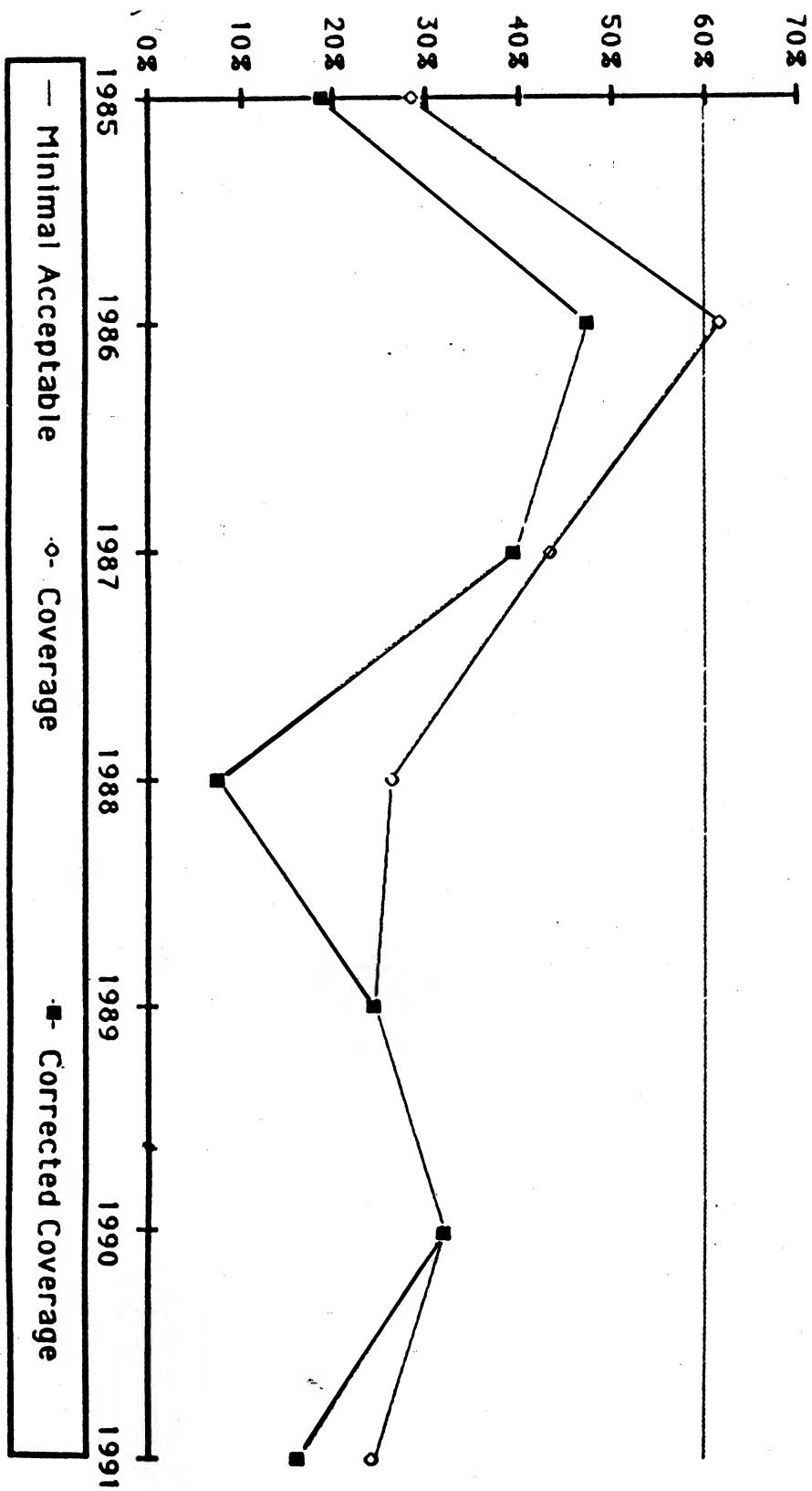
Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	238	14	106	6
Under Treatment (old patients)	60	10	27	4
TOTAL	298	24	133	10

B. TREATMENT ACTIVITIES

***** / TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	16	28	44	4
b	new cases reg. this period	15	24	39	6
In	start. again after being lost	0	0	0	0
put	transferred in this period	3	9	12	0
c	Total= (a)+(b)	34	61	95	10
out	completing treat. this period	9	7	16	1
put	died during this period	0	0	0	0
	transferred out this period	8	14	22	5
	lost during this period	8	9	17	1
	N° of cases stopped this per.	*****	17	*****	1
d	TOTAL	25	47	72	8
e	Under treatment at the end of the period: (c)-(d)	9	14	23	2
	N° of months defaulted this per	NA	NA	NA	NA
	N° of sputum (-)ve becoming (+)ve this per.		0	*****	*****
	Total n° of TB patients on treatment at the end of per.			25	

	1991	1990
N° of sputa examined / patient:	2.24	
ratio new AFB(+) reg./new pulm.pat:	38.46%	
AFB(+) lost/(output - transf. out):	47.06%	
AFB(-) lost/(output - transf. out):	56.25%	

D.I.KHAN DISTRICT **Case Finding Coverage % of Expected Incidence**



REPORT

District/Agency: South Waziristan

BIU: DIK/SWA

No of reports 68

PERIOD: from 01-91

to: 12-91

A. CASE FINDING ACTIVITIES BY MICROSCOPIC EXAMINATION

Type of patients/ *****	N° of slides examined	N° of slides found (+) ve	N° of patien. examined	N° of patien. found (+) ve
New attendants of the clinic	1205	80	612	45
Under Treatment (old patients)	90	18	82	17
TOTAL	1295	98	694	62

B. TREATMENT ACTIVITIES

*****/ TYPE OF DISEASE CASES/ *****		N° of PULMONARY CASES			N° Extra-P. cases
		Smear (+)ve	Smear (-)ve	Total	
a	On treat. end previous per.	36	28	64	22
b	new cases reg. this period	49	47	96	17
In	start. again after being lost	0	0	0	0
put	transferred in: this period	7	13	20	11
c	Total= (a)+(b)	92	88	180	50
	completing treat. this period	12	15	27	9
out	died during this period	0	0	0	0
put	transferred out this period	9	18	27	7
	lost during this period	32	23	55	20
	N° of cases stopped this per.	*****	13	*****	2
d	TOTAL	53	69	122	38
e	Under treatment at the end of the period: (c)-(d)	39	19	58	12
	N° of months defaulted this per	NA	NA	NA	NA
	N° of sputum (-)ve becoming (+)ve this per.		0	*****	*****
Total n° of TB patients on treatment at the end of per.:					70

1991

1990

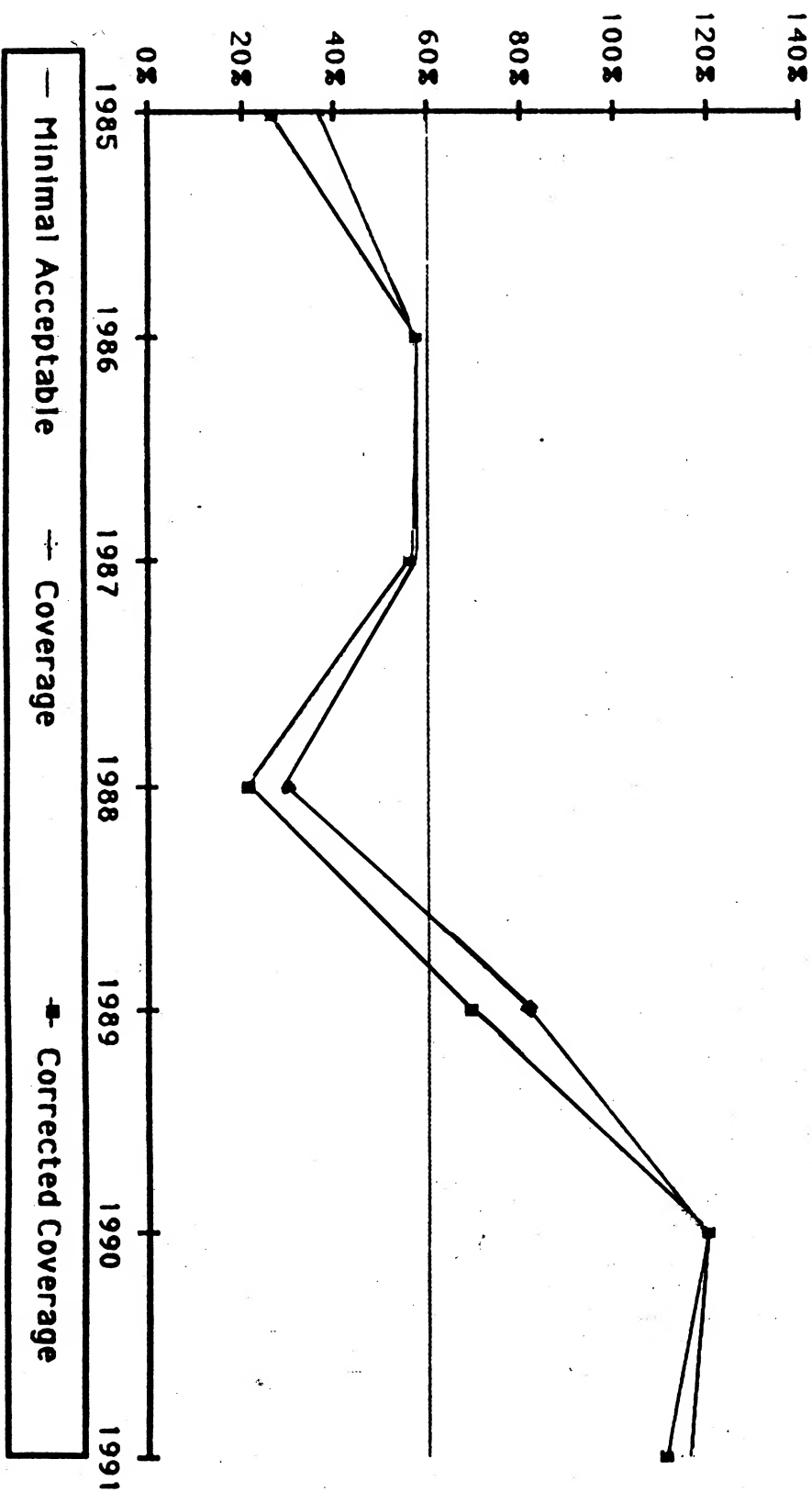
N° of sputa examined / patient: 1.87

ratio new AFB(+) reg./new pulm.pat: 51.04%

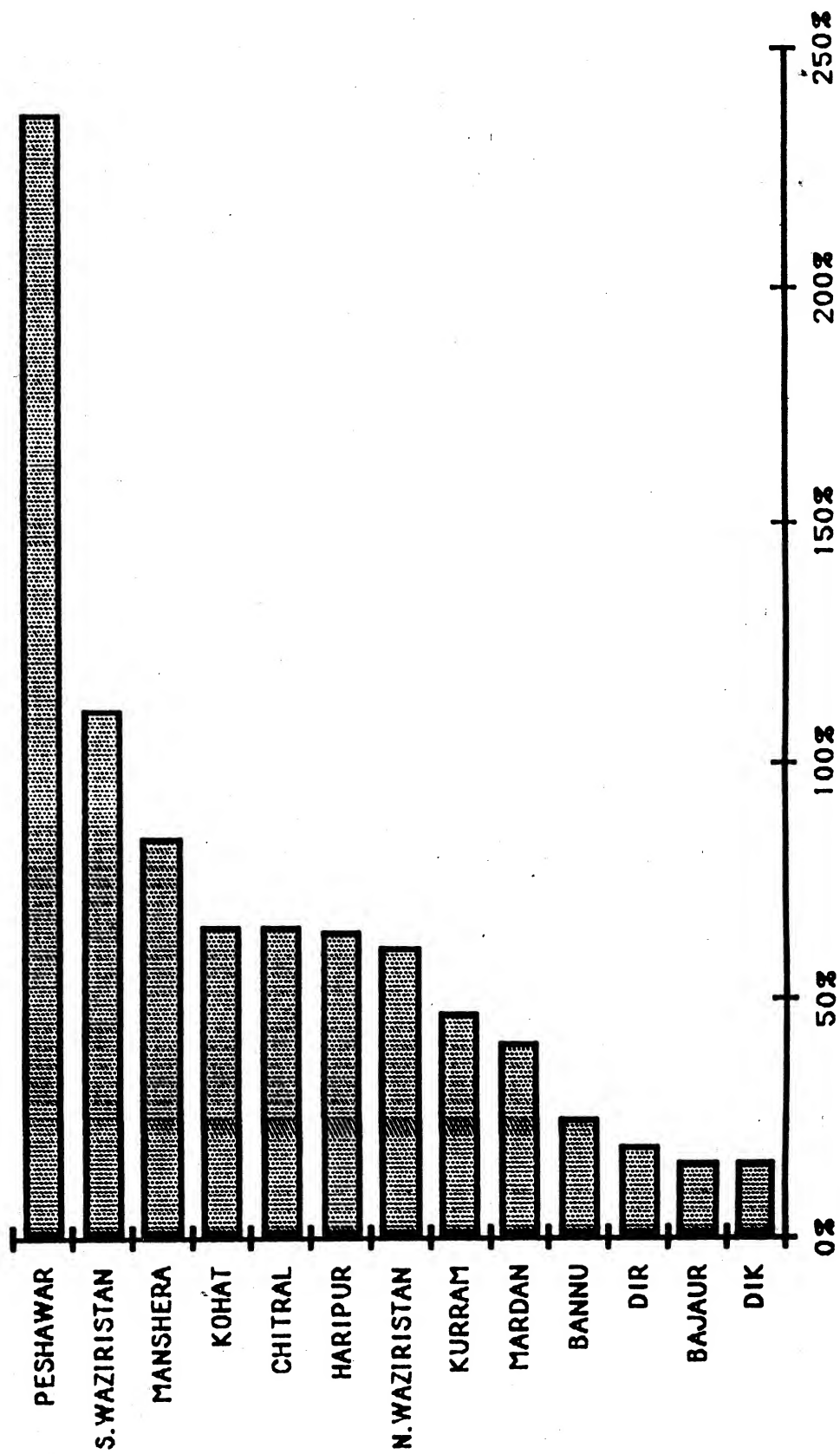
AFB(+) lost/(output - transf. out): 72.73%

AFB(-) lost/(output - transf. out): 60.53%

SOUTH WASIRISTAN
Case Finding Coverage % of Expected Incidence



NWFP: 1991 Case Finding Coverage % by District



AFB + 1990 ANALYSIS

A study on sputum positive patients diagnosed during 1990 was carried out (regarding 1991 we don't have yet complete data, because many patients are still under treatment).

In similar studies done in the previous years on the patients diagnosed from 1985 to 1989, looking at the general outcome we found a constant increase of the cured patients (at least two sputum negative sputa before completing the treatment are required for being labelled as cured), but there has always been a significant unsuccess rate (unsuccess= lost + transferred out + failure + died).

Such a unsuccess rate was always about 30% and never implied any significant increase of the failures or of the deaths, neither implied any loss of efficacy of the treatment regimens. Rather the number of patients labelled as lost or transferred out was high, whether because of a poor compliance or because of difficulties to a proper registration and data collection (migrations, increasing trend to attend hospitals for diagnostic facilities with consequent transfers to singles BHU's for treatment and follow up, etc.).

A more effective follow up of the patients was considered the next important target of our programme, by giving the most possible attention to both the periodic sputum examinations and the transferred patients and to the tracing of the defaulters.

In 1990 the success rate was 69.34, but again the wide majority of the unsuccessful patients were the lost and the transferred out (17.20 and 6.59 respectively).

Our strengthened attention to the policy of transferring the patients as soon as possible from the hospitals where the diagnosis was made to their respective camps has limited the number of patients labelled as T.O. in the general outcome.

On the contrary the lost patients have even increased if compared with the previous years and represent more then 50% of the total unsuccessful cases.

The highest averages of lost patients were reached by the agencies whose activities were mainly performed in hospitals (i.g. S.R.C.S., AHSAD, Lej. ul Dawa), and this confirms what previously suggested, that the trend to a larger confidence in the hospitals, and particularly by patients coming from Afghanistan, results in a higher average of defaulters and "lost".

In fact any tracing of defaulters is impossible in hospitals, and patients coming from Afghanistan may go back when their symptoms improve even if the treatment has not yet been completed, or they may face problems in attending regularly the program facilities.

The **failure rate (4.32%)** decreased compared with 1989 (5.12%).

This is due to the introduction of the retreatment regimen during the year 1990 for patients who failed the short course regimen (a study on the patients treated with the retreatment regimen will be discussed later on).

If we look at the failure rate in the figures concerning the single agencies we see that different types of short course regimen were not a significant factor.

In fact during 1990 S.R.C.S. prescribed a short course with Rifampicine in the maintenance phase too, but if the SRCS failure rate (4.02%) is lower then the failure rate of some agencies (i.g. IRC, AHSAD, UAAR, Lej. ul D.) it is higher then that of other agencies (i.g. UNHCR, CHREP, SARRO) using Rifampicine in the intensive phase only.

The lowest failure rates were reached by agencies working in the camps only and with good general performances (good case finding, low "lost", higher rate of "cured" compared with "treatment completed", etc), while the highest ones were reached by agencies working mainly in hospitals and consequently with a higher number of lost patients.

When considering the single districts we see that the highest unsucces rates were reached where the seasonal migrations take place, with a consequent difficulty in a proper follow up of the patients (Bannu and North Wasiristan, DIK and South Wasiristan).

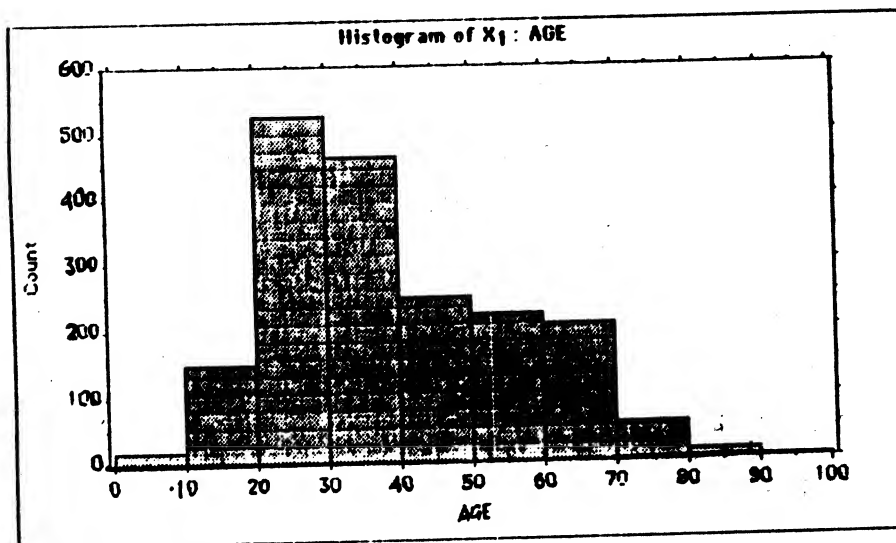
That means that the most important reason of failure was not the type of regimen but the compliance and the defaulting rate, as well as the attention paid to a proper follow up of the patients.

TECP-GENERAL OUTCOME FOR YEAR 90 (ALL POSITIVE PATIENTS)

X1: OUTCOME			
Bar:Element:	Count:	Percent:	
1. TO	122	6.438	
2. LO	326	17.203	
3. CU	1189	62.744	
4. FA	82	4.327	
5. TC	125	6.596	
6. DI	51	2.691	

DI = Died, TC= Treatment Completed, CU=Cured, LO=Lost, FA=Failure, To=Transferred Out

TECP-CHART OF AGE DISTRIBUTION FOR YEAR 90 (ALL PATIENTS)



TECP-SUCCESS RATE FOR YEAR 90 (ALL POSITIVE PATIENTS)

XI: SUCCESS			
Bar:Element:		Count:	Percent:
1	YES	1314	69.34
2	NO	581	30.66

-Mode

TECP-SUCCESS RATE FOR YEAR 90 (NEW POSITIVE PATIENTS)

XI: SUCCESS			
Bar:Element:		Count:	Percent:
1	YES	1198	69.329
2	NO	530	30.671

-Mode

TECP-SUCCESS RATE FOR YEAR 90 (RELAPSE PATIENTS)

XI: SUCCESS			
Bar:Element:		Count:	Percent:
1	YES	63	73.256
2	NO	23	36.744

-Mode

TBCP-SEX DISTRIBUTION FOR YEAR 90 (ALL PATIENTS)

XI. SEX			
Bar:Element:		Count:	Percent:
1	F	1169	61.689
2	II	726	38.311

-Mode

TBCP-SUCCESS RATE BY SEX FOR YEAR 90 (ALL PATIENTS)

Observed Frequency Table			
	F	M	Table
YES	829	485	1314
NO	340	241	581
	1169	726	1895

Percents of Column Table			
	F	M	Table
YES	70.92%	66.8%	68.34%
NO	29.08%	33.2%	30.66%
	100%	100%	100%

OUTCOME BY AGENCY FOR YEAR 1990 (AFB POSITIVE PATIENTS)
(only agencies with minimum 20 pts were considered)

	Lost	%	Treatm.Com.	%	Cured	%	Failure	%	Died	%	Trans.out	%	Totals
UNHCR	52	12.6%	40	9.7%	242	58.6%	15	3.6%	18	4.4%	46	11.1%	413
AHSAO	10	23.8%	15	35.7%	12	28.6%	3	7.1%	1	2.4%	1	2.4%	42
CHREP	1	1.9%	2	3.8%	41	77.4%	2	3.8%	3	5.7%	4	7.5%	53
IRC	15	13.5%	7	6.3%	71	64.0%	6	5.4%	8	7.2%	4	3.6%	111
KRCS	6	30.0%	3	15.0%	10	50.0%	1	5.0%	0	0.0%	0	0.0%	20
SARRO	5	11.1%	1	2.2%	32	71.1%	1	2.2%	2	4.4%	4	8.9%	45
SRCS	178	18.8%	19	2.0%	653	69.1%	38	4.0%	3	0.3%	54	5.7%	945
LEJ.-UL-DAWA	29	38.2%	10	13.2%	27	35.5%	5	6.6%	0	0.0%	5	6.6%	76
UAAR	11	10.6%	19	18.3%	54	51.9%	5	4.8%	11	10.6%	4	3.8%	104

SUCCESS RATE BY AGENCY FOR YEAR 1990 (AFB POSITIVE PATIENTS)
(only agencies with minimum 20 pts were considered)

	SUCCESS	%	UNSUCCESS	%	Totals
SRCS	672	71.1%	273	28.9%	945
UNHCR	282	68.3%	131	31.7%	413
IRC	78	70.3%	33	29.7%	111
UAAR	73	70.2%	31	29.8%	104
SARRO	33	73.3%	12	26.7%	45
CHREP	43	81.1%	10	18.9%	53
KRCS	13	65.0%	7	35.0%	20
LEJ.-UL-DAWA	37	48.7%	39	51.3%	76
AHSAO	27	64.3%	15	35.7%	42

SUCCESS= Treatment completed or Cured
UNSUCCESS= Lost or Died or Transferred out or Failure
 (Failure= still positive after the fifth month of treatment)

RETREATMENT REGIMEN

The outcome and the success rate of 140 patients (all of them sputum positive and failure after the short course), treated with the retreatment regimen introduced in the program in August 1990, were analyzed.

The retreatment regimen is : 3-4 months of intensive phase (with S for 2 months, and RHEZ) and 5-4 months of maintenance phase (with RHE). Out of 140 patients, 43 were previously treated by SRCS (= with Rifampicine both in the intensive and in the maintenance phase) and 97 by all other agencies (= with Rifampicine in the intensive phase only).

Looking at the general outcome we see that 10% of the patients were "lost" and 7.85% were labelled as transferred out (and then they didn't result "transferred in" in any other program facility, that means that practically they have to be considered as lost as well).

Considering that the retreatment should be a fully supervised regimen such figures are not satisfactory, because either the due attention was not paid in tracing the defaulters and in checking the patients compliance or despite such attention too many patients didn't attend regularly and properly the program facilities.

Concerning the failure rate we have to consider that, when the retreatment regimen was introduced in the program, out of the first patients put under treatment many were chronic patients who already got unsuccessful therapy for long periods and who had little chances to respond to any further regimen. This can partially explain the high failure rate, and we can expect better results in the years to come, after the most chronic patients have been already discharged from the program.

If we don't consider the patients who discontinued the treatment the general success rate rises to 44.34%.

If we do the same assessment separately for SRCS and for all other agencies we see that the success rates are respectively 33.3% and 49.4%.

It means that a failure patient who had Rifampicine for long periods has one chance every three of responding to the retreatment regimen, while a failure patient who had Rifampicine for two months only has one chance every two.

Since in the 1990 AFB + analysis we saw that the type of short course was not significant in determining the failure rate, but this was determined mainly by the defaulting rate and by the irregularity of the treatment, we may suppose that a failure patient who has Rifampicine for longer periods has more chances of becoming resistant to Rifampicine and subsequently of not responding to the most effective drug used in the retreatment regimen.

Furthermore the above figures may suggest that a short course with Rifampicine in the maintenance phase too, even if two months shorter, increases the risk of creating resistance to Rifampicine without giving any better result in the failure rate, and so it should not be considered at least until a TB Control Program has reached a satisfactory reliability among the patients in order to ensure a good compliance.

A study previously carried out in our Referral Lab. on the Resistance to the TB drugs in 101 failure and relapse cases showed that, out of 46 patients resistant to all single drugs, 56.5% were still sensitive to a combination of 5 drugs (SRHET) and 34.8% were sensitive to a combination of 3 drugs (RHE).

The first combination is similar to the intensive phase of the retreatment regimen (Z is replaced by T only), while the second combination is the same utilized in the maintenance phase.

The success rate "in vivo" of the patients who didn't discontinue the treatment, and who belong to the group of all other agencies than SRCS, is similar to the theoretical success suggested by the study "in vitro".

Retreatment Regimen - OUTCOME OF ALL PATIENTS

XI: OUTCOME				-Mode
Bar:Element:	Count:	Percent:		
1. CU	46	32.857		
2. FA	58	41.429		
3. DI	6	4.236		
4. LO	14	10		
5. TC	5	3.571		
6. TD	11	7.857		

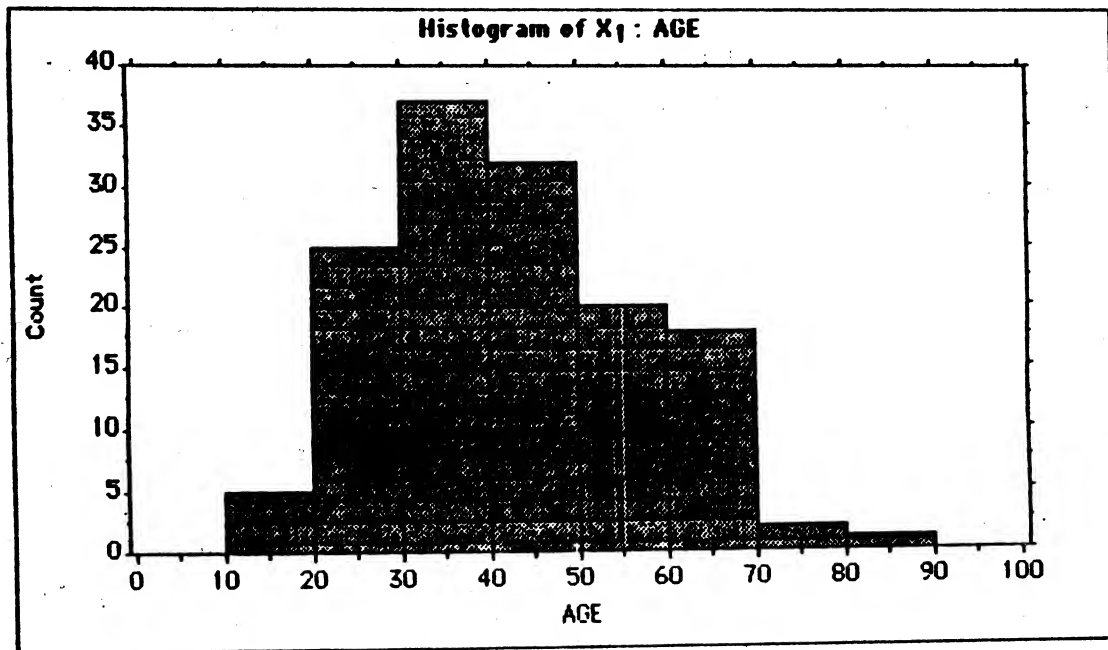
Retreatment Regimen- SUCCESS RATE of ALL PATIENTS

XI: SUCCESS				-Mode
Bar:Element:	Count:	Percent:		
1. YES	51	36.129		
2. NO	89	63.571		

SUCCESS RATE of ALL PATIENTS (NOT INCLUDED PT WHO DISCONTINUED TREATMENT)

XI: SUCCESS				-Mode
Bar:Element:	Count:	Percent:		
1. YES	51	44.348		
2. NO	64	55.652		

Retreatment Regimen- AGE DISTRIBUTION of ALL PATIENTS



Retreatment Regimen- SEX DISTRIBUTION of ALL PATIENTS

X ₁ : SEX			
Bar :	Element :	Count :	Percent :
1	M	63	45
2	F	77	55

-Mode

OUTCOME of SRCS ONLY

X ₁ : OUTCOME			
Bar :	Element :	Count :	Percent :
1	CU	11	25.581
2	FA	24	55.814
3	DI	0	0
4	LO	3	6.977
5	TC	1	2.326
6	TO	4	9.302

-Mode

SUCCESS RATE of SRCS ONLY

X ₁ : SUCCESS			
Bar :	Element :	Count :	Percent :
1	YES	12	27.907
2	NO	31	72.093

-Mode

SUCCESS RATE of SRCS ONLY (NOT INCLUDED PT WHO DISCONTINUED TREATMENT)

X ₁ : SUCCESS			
Bar :	Element :	Count :	Percent :
1	YES	12	33.333
2	NO	24	66.667

-Mode

OUTCOME of ALL AGENCIES (NOT INCLUDED SRCS)

X ₁ : OUTCOME			
Bar:	Element:	Count:	Percent:
1	CU	35	36.082
2	FA	34	35.052
3	DI	6	6.186
4	LO	11	11.34
5	TC	4	4.124
6	TO	7	7.216

-Mode

Retreatment Regimen- SUCCESS RATE of ALL AGENCIES (SRCS NOT INCLUDED)

X ₁ : SUCCESS			
Bar:	Element:	Count:	Percent:
1	YES	39	40.206
2	NO	58	59.794

-Mode

SUCCESS RATE of ALL AGENCIES (NOT INCLUDED SRCS AND PT WHO DISCONTINUED TREATMENT)

X ₁ : SUCCESS			
Bar:	Element:	Count:	Percent:
1	YES	39	49.367
2	NO	40	50.633

-Mode

PRIMARY RESISTANCE TO TB DRUGS STUDY

A study was carried out on 203 sputum positive patients never treated in the past. The resistance rate to the six single drugs utilized in our treatment regimens was tested (primary resistance).

In order to be further sure that any type of TB treatment had been previously given only patients with symptoms since less than five months were accepted.

A significantly high resistance to Streptomycin was found (9.36%). This is probably due to an improper use of it as a wide spectrum antibiotic, often in combination with penicillin.

The resistance to both Isoniazid and Pyrazinamide was 4.43%.

Thiacetazone was tested in 189 patients only, and 1.47% of them were found to be resistant.

Only one patient out of 203 was found to be resistant to Rifampicin (0.49%) and none was resistant to Ethambutol (it has to be reminded that Ethambutol was seldom used for the refugees, being usually replaced by Thiacetazone in the standard regimen and in the maintenance phase of the short course, and this may explain the lack of resistance to it).

If we consider the resistance to both Streptomycin and Isoniazid (= the two most effective drugs utilized in the intensive phase of the standard regimen) we find out a rate of 1.97% (= 4 cases out of 203), while none was resistant to both Isoniazid and Rifampicin (= the two most effective drugs in the intensive phase of the short course regimen utilized for the sputum positive patients).

In the routine activity performed in 1991 by ICD Referral Laboratory, 259 Culture-Sensitivity tests (out of 612 sputum samples received) were done, all of them belonging to patients under treatment, and particularly to failure or relapse cases.

In such tests the resistance rates were respectively 48% (S), 52% (H), 33% (E), 47% (R), 56% (Z), 32% (T), and 103 patients were found resistant to more than three drugs.

The difference between such rates and the Primary Resistance rates shown above doesn't require any further comment and underlines the goal of reducing the defaulting periods and the irregularities of treatment, which are the main responsables of the resistances to the TB drugs.

Sensibility/Resistance to THIACETAZONE

XI: T				-Mode
Bar:Element:		Count:	Percent:	
1	NT	14	6.897	
2	R	186	91.626	
3	R	3	1.478	

Sensibility/Resistance to STREPTOMICINE

XI: S				-Mode
Bar:Element:		Count:	Percent:	
1	S	184	90.64	
2	R	19	9.36	

Sensibility/Resistance to STREPTOMICINE (Females)

XI: S				-Mode
Bar:Element:		Count:	Percent:	
1	S	95	89.623	
2	R	11	10.377	

Sensibility/Resistance to STREPTOMICINE (Males)

XI: S				-Mode
Bar:Element:		Count:	Percent:	
1	S	89	91.753	
2	R	8	8.247	

Sensibility/Resistance to RIFAMPICINE

XI: R				Mode
Bar:	Element:	Count:	Percent:	
1	S	202	99.507	
2	R	1	493	

Sensibility/Resistance to ETHAMBUTOL

XI: E				-Mode
Bar:	Element:	Count:	Percent:	
1	S	203	100	
2	*	*	*	

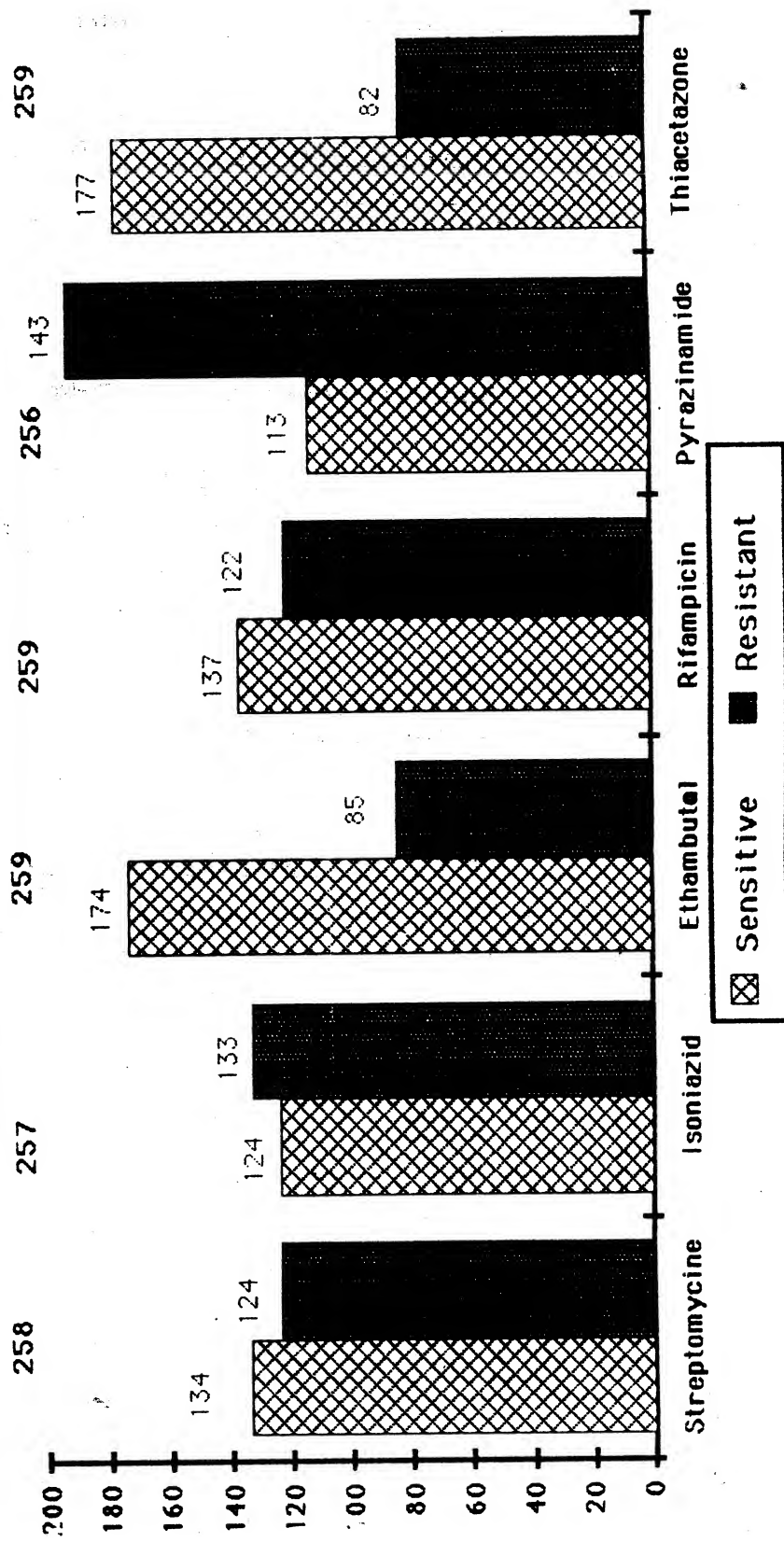
Sensibility/Resistance to INH

XI: H				-Mode
Bar:	Element:	Count:	Percent:	
1	S	194	95.567	
2	R	9	4.433	

Sensibility/Resistance to PYRAZINAMIDE

XI: Z				-Mode
Bar:	Element:	Count:	Percent:	
1	S	194	95.567	
2	R	9	4.433	

REFERRAL LAB
Distribution of Drug Resistance in 259 C/S tests
performed in 1991





RESULTS OF SENSITIVITY TEST

